

Meetings of Mining Companies.

GREAT WHEEL VOR UNITED MINES.

A meeting of shareholders was held, on Wednesday, at the London Tavern, Bishopsgate-street, Mr. H. W. SCHNEIDER in the chair.

Mr. ALISON (the secretary) read the notice convening the meeting, and the minutes of the last, which were approved.

The CHAIRMAN then read the report of the committee, which notified that the dividend had been paid, and the registration effected, as directed by the resolutions of the last general meeting. In accordance with the arrangements announced at the last meeting, the works at Wheal Metal have been connected with Sweeney Wheel Buller. This connection, although causing some delay in the working of the former mine, and thereby lessening its returns for the time, would, there was no doubt, not that it had come fully into operation, even if they did not get any returns or ore from their interest in the latter mine, lead to those favourable results, the expectation of which induced the company to enter into the arrangement. The balance of profit to the credit of the Flow, on Sept. 30, was £6900, 4s. 3d., of which £4600, 17s. 10d., had accrued since March 31; the extension of the dressing-floor, and occasional stoppages of Crease's engine, have prevented more being done. Wheal Metal account shows a balance against that mine, at the same date, of only £333, 6s. 9d., it having been reduced from £433, 2s. 6d. since March. The balance to the debit of Great Wheel Vor is £6, 27s. 19s. 1d., including outstanding liabilities, which are much more than covered by the value of the plant and machinery on the mine, and its erection. Since the last meeting Trevelyan's 85-inch cylinder engine had been set to work, and very large additions made to the stamping power and dressing-floors; and having now reached to some extent the productive portion of the mine, considerable returns from it, regularly increasing, might be looked for. The report concluded by the committee congratulating their fellow-shareholders on the extremely satisfactory state of the entire property.

The statement of accounts was next exhibited, which showed a balance at bankers' on September 30 of 1853, 19s. 2d., and, in addition, 19,805s. 7d. of shares engaged to be taken, in the course of payment, and secured, and of which a large amount had been received since the accounts were made up. Besides a reserve of about 10,000s. more in other shares, the balance of the capital of 133,333s. The accounts and report of the committee were then adopted.

The CHAIRMAN, in moving the adoption of the report and accounts, said the reason they were not in a position at the present time to declare a dividend arose from the large sum that had been required in completing the works, and not from any diminution in the returns of the mine. The profits on the Flow had been 6000s., and at Metal Mine had cost 8000s. to bring it to its present state, and the balance against it only about 500s., it showed that, in fact, there had been a clear profit of 7500s. on that part of the property; and he would remind them that the returns were always a month behind. The most important feature since the last meeting was the setting to work Trevelyan's 85-inch cylinder engine, in the presence of a vast assemblage of people; on which occasion a deputation went down to see it start, and took the opportunity of minutely examining the property. They were all much pleased with the able, energetic, and judicious management of the Messrs. Crease, and the great exertions of the various agents engaged on the mines. They went from one end of the mines to the other, below as well as above ground, and minutely examined every part of the works, and were fully satisfied with the progress made, and the returns were always a month behind. In confirmation of which, he held in June, they would be in a position to announce that, instead of yearly dividends, they should be called upon regularly to declare half-yearly dividends. (Cheers.) He (the Chairman) would now call upon Mr. Crease to read the report of the managers.

Mr. H. P. CREASE then read the following report of Mr. E. Crease and himself, as managers:—

Dec. 19.—In presenting you with our report for the half-year which has elapsed since the last general meeting of 20th June last, we shall have to call your attention to many new points of interest in the important operations we are carrying on at surface and underground in this extensive property. The SURFACE OPERATIONS first claim our attention, and show a considerable progress.

The roads, whose construction and completion we reported in June last, have been kept in excellent repair. A simple, but complete, system of railroads has been planned out, and is advancing rapidly in execution. They are designed to convey tinstuff from the different shafts on the Old Wheal Vor, Sosen, Trevelyan, Metal, and other side lodges in the property, to one extensive general floor, where it will be spalled by machinery, impelled by the house water of the engines, passed over a wheel, and then divided and conveyed by tram wagons along the central or trunk railway, which will be about 400 fathoms long, to the steam stamps. The great increase which we find now commencing in the quantity of tinstuff we are raising will make this the most economical and effectual mode of transit, and its adoption will effect a saving of full 50 per cent. over the common mode of carrying ores. The reservoirs, seven in number, have been completed, to hold 3,505,736 gallons of water. The surface drainage of the mines has been well kept up in every requisite direction, and already with the happiest effect, for the coming water, at the depth already drained, does not equal more than two-thirds of the water drained by the former works, effecting a saving of full 33 per cent. in this particular. Shallow and deep adit levels have been driven and cleared along and across the main and side lodges over 3000 fms., and 28 adit shafts put down or cleared along this distance. Since the 20th June 20 fms. have been cleared of stuff, and a shallow level has been cleared, to convey to the engines from Trevelyan Well, instead of the present mine-raised water, for feeding and condensing purposes. This will be shortly conveyed from old engine-shaft along the surface by means of a rod attached to the steam stamps' axle, and supply Crease's and Trevelyan's engines, and the engines on the mines, and effect a very great saving. Materials, and the 20th of June five boilers of Trevelyan's engine have been sealed and bricked complete, boiler house built, and roof put on, cylinder bricked around. Since June 20 Trevelyan's 85-inch cylinder engine and boilers have been fixed and set to work, and is working very satisfactorily. Trevelyan's 22-inch cylinder whim-engine house has been repaired and roofed, boiler-house built and roofed, stack repaired and raised several feet, granite stand for whim cage, and steam capstan built. Rolls and stands for steam capstan, shears, and shives, with hand capstan complete, including a 6-inch rope. The saw mill and its adjuncts continue in active operation, and effect a great saving in sawing, turning, and screwing work of the mines, over the methods formerly in use. Wheal Metal 26-inch cylinder engine, engine-house, boiler-house, and stack, &c., have been thoroughly repaired and put in order, and the whole has been fitted up for drawing the ores from Wheal Metal, making it a valuable and effective machine. The steam stamps' of 36-inch cylinder, with house, boilers, boiler-house and stack, and masonry for the loading of the 32 new heads of stamps and axles, have been put in admirable repair, and are now of great value. Trevelyan's portable engine for drawing, and, if necessary, pumping, with two 5-hp. oscillating cylinder, and boiler, and boiler complete, including plates, and winding apparatus, with gear, carriage stand, and six wheels, have been erected, and put to draw, with a proper shaft tackle, on Woolf's shaft, with shives and stands complete, drawing 100 kibbles for 4s. 6d., when the same quantity of kibbles drawn by horses would cost 15s. This machine is so placed as to draw from several shafts on Trevelyan's lode.

From the operations actually on the surface, we next turn to the intermediate work performed, in clearing and repairing shafts, laying down pitwork, and clearing and opening levels.

Crease's shaft has been timbered complete from surface to adit, and for this depth (33 fms.) divisions, castings, and ladder-rod, have been put in, and from this point continued down temporarily to the 144. A vast extent of ground has been excavated in solid rock for bob-plats at the 30 and 75. In consequence of the extreme hardness of the ground, which here consists of fine, close textured porphyry dykes, and of the extent to which we were obliged to carry our excavations (much greater than was at first anticipated), and also owing to the stroke of the 100-inch cylinder engine being 4 feet longer than that of the engine formerly in use here, a difference which required the bobs to be lengthened, widened, and heightened proportionally, a very much greater time has been taken in reaching the present depth than could possibly have been calculated upon. This loss of time was further increased by the necessity we were under of cutting out of the hard rock space for the plunger-heads, as well as cutting ground for bringing up the top of the columns of the plunger, and behind the cylinders instead of in front, as is usually done, when the shaft is sufficiently deep to require it, so that we have been delayed full three months by this means beyond the time which could reasonably have been calculated upon; and this, notwithstanding that the shaft has been all the time full of picked men, working simultaneously day and night, in the different places alluded to. The work here has had our best and unremitting attention, and is now executed in a firm, substantial, and satisfactory manner, eliciting the approbation of all competent judges.

The pitwork at Crease's shaft is as follows:—300 fms. of flat iron main rods, and 33 fms. wood rods fixed, with plates, bolts, stays, and linings complete. A house-lift at the adit consisting of 30 fms. of 16-inch plunger-lift, with 16-inch pumps. Two lifts in the 30 fms. level—viz.: Two 15-inch plunger-lifts complete, with 14-inch pumps, and 15-inch poles. Crown lift in the 104.—Two 15-inch plunger-lifts complete, with 15-inch pumps, and 16-inch poles, including four sets of bearers, cisterns, and two sets of main catches, with bolts, glands, and staples. Two 15-inch drop-lifts (each 40 fms. long), including bucket rods, buckets, yokes, and linings complete. A house-lift at the adit consisting of 30 fms. of 16-inch plunger-lift, with 16-inch pumps, and 15-inch poles. Crown lift in the 104.—Two 15-inch plunger-lifts complete, with 15-inch pumps, and 16-inch poles, including four sets of bearers, cisterns, and two sets of main catches, with bolts, glands, and staples. 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THE MINING JOURNAL.

TORREY IRON-PAINT AND ORE WORKS.—In our advertising column will be found a notice of these works, for fully developing the resources of which property additional capital is required. We are informed by the present holder that it is a *bona fide* undertaking, and one of considerable promise to the small capitalists or a company. The property extends over about 4 acres in Devonshire, and contains iron ore of good quality, plastic clay, and siliceous sand. The ore is the red hematite lying in large deposits, surrounded by lime rocks. The geological features of these deposits are somewhat curious. In some places, thin veins, in the fissures of the lime rock, vary from 80 and 100 ft. in width, forming, as it were, a basin, in which is deposited a mass of clay, the centre of the latter being the siliceous sand, in the form of a kernel or core. This gradually attenuates downwards, until cut out by the clay, which, in its turn, is cut out by the iron ore. A large portion of the ore requires to be washed for market, to free it from sand, clay, and other foreign matters, and the ore is broken up, from time to time, by machinery. Another portion of the ore is crushed, and has hitherto treated as refuse, but, from recent experiments, has been proved to be capable of forming a superior kind of common earthenware, jars, sewer-pipes, &c., and, mixed with sand, fire-bricks and tiles. The ore for the production of iron has been established in the market for some years, and 5000 tons were shipped last year. The principal iron-works in Wales during the past few years have supplied to one of the principal iron-works in Wales during the past few years. The proprietors prior possesses numerous steam-motors of the preservative qualities and industries mill-stones, railways, cranes, and all other necessary machinery for carrying on a first-rate business, with all the requisite buildings.

Original Correspondence.

ON THE MANUFACTURE OF IRON.

Sir,—Mr. Truran having hitherto utterly failed to explain away the rash passage in his book, relative to the iron made at the Cwm Celyn furnaces, now makes another attempt to do so, by an assertion equally rash, and still more unjustifiable. He says in his last communication, "The company he mentions have several furnaces, some of which are burdened for the production of iron of very superior quality, which in admixture with inferior qualities results in the production of bar-iron of a quality equal to that manufactured at other works." This is a pure fiction on the part of Mr. Truran. I am authorised in saying that the furnaces at Cwm Celyn and Blaenau are burdened to produce iron of the same quality—viz., a kind, white, slender iron; indeed, as I have over and over again proved, the metals made at any two of the furnaces differ no more in their chemical composition than do two samples taken from the same furnace. I am further authorised in saying that the slender iron purchased largely by this company is in no way superior—generally, in fact, inferior—to that made at the furnaces at Cwm Celyn. It is impossible, Sir, to carry on any discussion with a person who will condescend, as Mr. Truran has done, to manufacture facts to suit his own arguments. He must excuse me, therefore, if I decline to take any notice of anything he may be pleased to write further upon this subject.

Mr. Truran informs your readers "That it is tolerably well known in the scientific world that I am a mere copyist, and have not propounded anything new." The "scientific world" is probably Mr. Truran, and the only one of my writings with which he has probably any acquaintance is my *Manual of Electricity*, lately published, and noticed in your columns. I will, therefore, refer him, for his further information, to the *Philosophical Transactions* of last year, in which he will find, I think, a memoir of mine on a chemical subject, the publication of which in a journal of so high a character may, perhaps, be received as a proof that it is not merely a "copied" matter, but that it "propounds" something new. I may also refer him to the *Memoirs of the Chemical Society*, the *Chemical Gazette*, *Philosophical Magazine*, &c., during the last 10 years, for original papers of mine on various chemical subjects; and if these do not satisfy him, I may refer him to the essay which gained the last Astley Cooper prize of 300 guineas, on a physiological-chemical subject, the joint production of one of my colleagues and myself, the chemical part of which was performed by myself, and by pupils under my direction.

It is disagreeable to have to speak in this way of oneself, but I do not choose that the numerous readers of your Journal should have it in their power to do me the same injustice as Mr. Truran has done; and to conclude that because I am the author of several works on popular science I am, therefore, incapable of conducting scientific investigations. I have now done with Mr. Truran, and trust you will kindly give this, my last letter, a place in your columns. HENRY M. NOAD, Ph.D.

Medical School of St. George's Hospital, Dec. 18.

UTILISATION OF SLAG.

Sir,—As your correspondent, "Ops," is looking forward to more information on this subject, I fear he is, like many others, too much interested, yet not willing to believe that which has already appeared in your Journal of Nov. 24, page 753, and is expecting to see the ironmasters, or Dr. Smith's Slag Company, "for refining slag," bring it out, forgetting that it is possible it may have a tendency to make iron too cheap, and cause the manufacture to be carried to other parts, where both slag and iron are in great demand, iron plentiful, and fuel nearly as cheap. After what is now doing by Messrs. Chance in the immediate neighbourhood of where the iron slag is run to waste, we have only to find out the cheapest mode of melting slag materials, where required (as the after process of moulding, annealing, &c., is nearly the same in all cases), and then to see how the waste heat of the reverberatory furnace is used for melting, not requiring any refining, not depending on two sets of men, and the waste heat may be used for annealing, to prove the calculations, inserted in the *Mining Journal* of the 8th inst., of the manufacture of certain articles (not requiring great capital, expensive machinery, or a company to work it), for which there is, and always will be, an unlimited demand for the cheapest and most durable article for roofing, flooring, building, draining, &c., in every locality, particularly as a substitute for slate and stone, by the simple process of moulding or casting slag, similar to glass, into any size or form, plain or ornamental, rough or smooth, which in less than two minutes, without any waste of material in moulding, becomes a perfect and finished article, requiring no further expense than that of annealing with the waste heat of the furnace, which waste heat may also be used to generate steam, &c. BILKORTH, Dec. 18.

BITUMINOUS SHALE.

Sir,—As your correspondent, "Ops," appears to deem it advisable that further information should be given on the subject of the bituminous shales, which I noticed in my last communication, I take this opportunity of adding the following particulars.

I have not an analysis of its exact chemical composition, but I am informed that it contains about 25 per cent. of bituminous matter, the remaining 75 per cent. being composed of silica, alumina, protoxide of iron, magnesia, and lime, with small portions of potash and soda. I have made a severe enquiry into the cost of raising, and find that any quantity can be rendered on the spot at (say) 7s. per ton; and if large quantities were to be sold, I believe that this price might be materially lowered.

Any quantity may be furnished at once; there is no waste nor dirt, and it would not require any mechanical preparation to fit it for sale. It can be got in blocks of any size, or it might be rendered small, or ground; but a medium size would be preferable to the vendor.

If any of your readers should be desirous of obtaining samples for examination, I shall be glad to furnish them, on their signifying such a wish through your valuable Journal. I may further remark, that the mineral appears to be perfectly homogeneous in its composition, which precludes the possibility of specimens of more than average richness coming under observation.—Dec. 20.

MINING RECORDS.

Sir,—The importance and value of the leading article on this subject, which appeared in your last Journal, will be duly appreciated by every right-thinking mind who esteems the science of mining, and who has its practice and welfare at heart. This pity, yet true, that our mineral industry, which has given us our wealth, and established the magnitude and importance of our nation, should be so generally banned and eschewed by sober-thinking commercial men; yet the reason is obvious enough when the host of indifferent characters, audacious plunderers, charlatan miners, and share dealing necromancers, connected with it, are taken into consideration; it is, therefore, perhaps, not to be wondered at that simple-minded, honest men pray to avoid, and be delivered from, such society. It is not here my province to notice who, among the motley number, are the legitimate supporters of mining, or why the industry flourishes, in spite of the legion of harpies infesting it; but it is essential for me to pronounce a truth, that mines, conducted by cunning promoters, and supported by gambling speculators, do not become profitable on the entire amount of capital they represent. To prove this, let any competent person compare the amount of money absorbed in the schemes ushered into existence by such men, with that honestly applied to carefully-selected mineral properties, conducted by those who practically understand their profession, and then proceed to determine each result; he will at once discover the causes which prejudice, and sustain, the industry. It is, perhaps, impossible to prescribe a remedy to destroy the rampant disease from which the industry is suffering; but undoubtedly a species of vaccination, to secure future generations, faithfully chronicling its existence, arranged so as to be of the highest utility to the public, is a most judicious act, whilst, by educating and attaching men of character and practical ability to the profession (who may pronounce boldly against the nefarious aggressions of quackery and chicanery), is, to my mind, the most certain and active agency for restoring the industry to the high status it deserves to occupy. In no profession are talented practical men so much needed, or so well remunerated; and yet, from the debased character of the acquisition, the serious morality investing it, the middle classes are induced to shun it as an occupation for their sons, and hence, the ground becomes rank with wild puppies, and a legion of ignoramuses.

If the enquiry be made as to what the State has done in the matter to serve itself, the reply is—almost nothing. Hitherto it has virtually disregarded the importance of our mineral products, and is as indifferent for the well-being of posterity as our ancestors were for us. Tradition and defective histories are now our only lights to find the truth, for the dark glimmering millions of money have been imprudently expended. Centuries have now rolled away, while our mineral resources have been developing. What piles of facts relating to it might have been accumulated, and what masses of evidence might have been in existence, to elucidate and illustrate doubtful points now continually occurring, had the State acted wisely, and willed it. But we are still groping on, showing ourselves at once the cleverest and most ignorant mining people in the world.

The Mining Record Office, in Jermyn-street, established "for recording the state of each mine," does not fulfil its object; neither will it until it is made imperative on all workers of mineral properties to render, periodically, specific information relating to costs and returns, complete plans of subterranean operations, and of the machinery employed. You, Sir, may hope for some extensive benefits to accrue to mining from the "Metropolitan School of Science applied to the Arts." I hesitate not, to say that you will be disappointed, so long as it is a mixed institution, at the dictum of authorities, who deem the tracing of a line of equal importance with the representation of mining phenomena, the collecting of mining facts. The principles governing the fine arts, and the compound science on which mine is based, are not interrelated evenly. The one is distinct in its individuality from the other, and should be directed by men specially educated, having natural facilities for advancing each of them.

Separate the two; let mining be represented in accordance with its importance; let the men adopting it as a profession, and whose intelligence procures our created wealth, be honoured as in France, and elsewhere on the Continent; let them be classified as children of the commonwealth, and then we may fairly expect good results to follow.

Our metalliferous production is annually increasing; for the current year I estimate its value to be as follows:—

Coals, at pits.....	£23,000,000
Iron ore.....	3,000,000
Copper ore.....	1,300,000
Lead ore.....	1,500,000
Tin ore.....	700,000
Silver.....	200,000
Zinc ores.....	15,000
Salt, earthen, sulphur, building stones, &c.....	3,000,000
Total.....	£32,715,000

The headings of mining records, which you have given, embrace the major divisions of the subject; but they might, I think, be advantageously amplified, such as in Section II., add—Reports on the lithological, physical, and geological characteristics of mining districts or centres.

SECTION III.—Mineral produce of each mine—Average price per ton of ore sold—Amount paid for lord's dues—Amount received by tributaries—Total mine cost—Amount paid for tutwork or deadwork—Expenses in preparing or dressing ores—Cost of materials—Tributaries' cost—Water cost—Sandries—Profit and loss—Average yield of ores per fathom of lode—Average price or value of ores at a standard produce.

SECTION IV.—The average annual duty of the Cornish steam-engine—The highest duty of the Cornish steam-engine—The comparative results given by winding-engines—Stamping-engines—Hydraulic machinery of every class—Crushing mills—Edge mills—Horizontal mills—Dressing apparatus, and the various distinctive machines employed in mining.

Collectively with mining operations, metallurgy takes a very important position,

and since, in some instances, it forms part of mining establishments, it cannot well be excluded from the syllabus of a Mining Record Office. Respective of this, the subject is of such moment, and attention so strong, in the influence as to exercise an arbitrary power in the production of ores, that it ought not to be left unmodified; therefore say—

SECTION V.—Metallurgy: a.—Description of metallurgical processes, and cost of producing the metal so far as it can be ascertained; b.—Drawings or models of machinery employed in metallurgical operations, and duly performed by them; c.—Plans of the arrangement of works.

Such particulars as are required by these and your own headings would prove of infinite importance; since they would readily afford not only exact information relating to the past, whereby vast sums of money might be saved, but would also allow constant means of comparison to correct errors, to excite emulation, as well as to enforce on the mind correct principles of improvement, and the means of realising that economy of material and labour which is the surest way to secure enduring profits. Up to the present period, Great Britain has been recklessly extravagant in dealing with her mineral riches; but the time is approaching when competition, and the different conditions of other states, will make her look more carefully into the economising and improvement of her resources, unless she chooses to lose her prominence among nations. America is rising up like a giant to dispute the field with her—with an increasing, highly-intelligent population, boundless territory, myriads of acres rich in coal and metallic minerals; splendid internal navigation, unheeded of by the world, which will inevitably draw the world to her, or visit it. Australia and New Zealand will, in turn, supply themselves with metallic produce, whilst the European States are vigorously economising, systematising, and introducing that science into every department of their metalliferous industry, which not only secures a profit on ores which we should deem worthless, but are actively engaged in bringing into the service of mankind new mineral products, to make themselves wealthy and independent.—London, Dec. 19.

GUN-METAL—CHARCOAL IRON—COMPRESSED PEAT.

Sir,—Although many ingenious correspondents have furnished your columns and the daily press with partial accounts of the recent unsuccessful endeavours, by our principal engineers, to cast or forge mortars of unusual calibre, and have suggested, in several instances, a different *modus operandi* to that which was pursued for the object in view, still it must be confessed that no entirely satisfactory explanation has been given of those remarkable failures. In addressing you, however, on the present occasion, it is not so much with the view of solving a difficult and interesting problem in manufactures as of deprecating the obstinacy and folly of our practical engineers and ironmasters in their rejection of the purest known fuel, which is most extensively and profitably employed on the Continent. I allude to PEAT, both in a compressed and carbonised state. Having had considerable experience in the preparation of it, I am fully justified in concluding that not a few of the difficulties heretofore met with in the manipulation of iron may be obviated by its use, and that it is a fuel, moreover, peculiarly adapted for forging gun metal.

The manufacture and refinement of iron constitute at all times an interesting theme, the importance of which is considerably enhanced at a period when we are involved in hostilities with a powerful nation. However inferior, in social and political respects, the Russians may be to ourselves, they are undoubtedly quite as capable and ready to estimate and practice the newest revelations of science and skill as other people. If they have revived, in their extremity, a few exploded schemes, with the desperate hope of inflicting irretrievable mischief upon their enemies, and have discovered, from actual experience, their utter futility, it cannot be denied they have demonstrated to the world that the commonest and unprepared materials of nature offer better means of defence to beleaguered forces than all the artificial and expensive contrivances of man. Simple embankments of earth have proved more durable safeguards, and afforded wider scope for strategical plans than mortar, granite, and iron, however cunningly contrived. Notwithstanding this marvellous lesson, it is very problematical whether those whom it most concerns will profit by the lesson—so inveterate are the predilections and habits of theorists.

The conduct of our ironmasters in the development of their trade is too generally characterised by the same narrow views and bigoted preference for undeviating systems. In their stubbornness to uphold an uniform mode of operations at home, they multiply the advantages of their competitors abroad. How otherwise account for the large quantities of carbonised iron annually imported into this country? Notwithstanding the extraordinary impetus given of late years to practical engineering, and in consequence an increased (and ever increasing) demand in England for that particular commodity, the domestic manufacture of it has continued unalterably the same—1000 tons only per annum. It cannot be maintained that the Swedes, upon whom we depend principally for our supplies of this article, possess advantages denied to ourselves: Nature has been equally bountiful to both nations. In the west of England, in particular, the primitive ores are found to be quite as pure and productive as the most esteemed, whether of Sweden, Russia, or Hungary; whilst a vegetable fuel, literally inexhaustible in quantity, and peculiarly adapted for their reduction, overabounds the immediate locality. But so long as quantity, and not quality, of iron continues to be the exclusive desideratum of our great producers, we must hope in vain for such modifications and improvements in the manufacture of it that shall redound as much to their discernment as to their skill.

I contend, Sir, that if the prime mineral resources of these islands were properly developed, we should not be almost wholly dependent upon, much less paying to the foreigner from 20s. to 24s. per ton, for an article of such an article of daily use as iron. It is a fact that our iron might as extensively and as successfully manufacture ourselves, at a positive saving, too, of seventy-five per cent. There is no validity in the objection to this argument that it is replied that the natural fuel of this country is coal, as wood or turf is that of Sweden or Bavaria; and, therefore, we are bound to convert that, and that only, with which Nature has so lavishly favoured us. As well might such reasoners arbitrarily separate the manufactures of cotton and linen cloths, and insist upon the impracticability of fabricating both at the same time and place. It is a fact that our engineers stand in great need of charcoal, for the use and application of which daily become more and more important in their manifold operations and projects. It is no less a fact that Nature, with her wonted beneficence, has placed at our disposal the means for satisfying our utmost necessities in this particular respect. And, finally, we have the lengthened experience of several nations to direct us in the proper use of them. Why, therefore, do we obstinately refuse to profit by such a combination of circumstances? Why persist in unnecessarily taxing ourselves year after year, besides sacrificing our reputation for wisdom and skill? Surely, these facts deserve the serious consideration of all those who are directly interested in the progress of our chief national manufacture.

It is my conviction, Sir, that had our engineers, upon the occasion first referred to, employed charcoal iron, and forged it with compressed peat, or peat coke, or both combined, they would have met with larger success. Continental experience demonstrates that peat is superior in many respects to wood, whether charred or not, in smelting and refining iron, and, of course, in all subsequent manipulations of it.

On the first place, the charcoal or carbonised wood, which is the great desideratum in gun metal, it imparts a greater ductility to it, without impairing in the smallest degree its tenacity.

Without questioning the equal purity and other valuable properties of wood charcoal, it produces upon iron almost an opposite effect to that of peat—that is, instead of softening, it tends rather to harden it. Hence, probably, the notable failures in question.—London, Dec. 17.

M. D.

DR. COLLYER AT FORT BOWEN MINE, NEW GRANADA.

Sir,—The conviction that the public has entire confidence in one's statements is, of itself, sufficient guarantee that my accounts of this and other mines in the vicinity will be given with a strict impartiality; no personal interest or prejudice shall influence my mind. It has been so often the case that the wish was made the father to the thought, that the picture was painted, not as it really was, but as it was desired to be; this has led to disappointment and distrust. This country has remained undeveloped, no one ever having penetrated the dense forest which everywhere presents itself: it will be my object to make explorations, with a view of discovering gold and silver mines, the results of which I will give you in my next communication, as far as they may be of service to the public. The Fort Bowen mine, the use of which, without doubt, a successful enterprise; the mineral wealth has been demonstrated by the extraction of some 60 ozs. of gold, and the material from which it has been taken is inexhaustible—that is, the vein can be traced for miles, and wherever tried yields gold. The six heads of stamps have been at work in all not much over two weeks—that is, exclusive of stoppages, caused by the want of fuel, which difficulty is now overcome, and the steam-engine is regularly supplied. During the fortnight of operation, the mine has been reduced in the 24 hours, from 14 to 11 1/2 ounces of gold have been extracted. The object was to ascertain how much gold was being lost in the use of the strakes or blankets. With that view, I attached my amalgamator, and allowed about two-thirds of the tailings to pass through it. The experiment lasted 12 hours, when I distilled the mercury, and found that I had caught 2 ozs. 2 dwts. of fine gold! This loss exists in nearly all the gold mines worked in the Brazil, where blankets alone are used. The lost gold, it will be observed, is nearly equal to half the amount saved, and would of itself pay the whole expenses of these subsequent operations, and the mine would continue its use. The fact is the very great distance from the driving pulley, and the narrowness of the belt makes it most difficult, especially in such a humid climate—one moment dry, and the next rain.

When, however, my crusher and other machinery arrives it will be in my power to extract from 1 1/2 to 2 ozs. per ton, more particularly as the stuff has been yielding a higher average than at first, and there is every indication of its continuance. Mr. Tate, who leaves for New York, yesterday, visible gold, pro and con oxide of iron; has been taken from ore not purely from the vein, as that from the shaft was mixed with it. In order to give your readers a more accurate idea, I will give the geology of the country, and particularly of this vicinity.

The whole of the Isthmus is of a volcanic formation, which may be called secondary or metamorphic. Felspar and porphyry are found in abundance at the surface, first soft, but as we descend it becomes hard and compact. After this follow the strata of greenstone, hornblende, gneiss, and granite, with now and then a piece of trap rock. The work done in the mine is a cut of about 200 ft. long and 75 feet deep, on the south side, and 12 feet wide at the bottom. This is a few feet above the natural water level of the country. The other improvements are a shaft 5 by 7 ft., and 30 ft. deep, which is situated in the open cutting just referred to: this is sunk on the north side of the Morgan vein. This lode is perfectly well defined. At this shaft a level has been some 30 ft. on the course of the lode, which presents the following appearance:—1st. Ferruginous quartz, compact, rhomboidal cleavage from milk white to dark brown, few pyrites, visible gold, pro and con oxide of iron; this constitutes 3 ft. of the vein. 2d. Bluish clay, or hard flooka 3 ft., with occasionally visible gold, but contains much very fine gold; hydro-sulphure of iron, 3 feet, full of fine pyrites, soft flooka; white felsparic clay, quartzose texture, with visible gold; small quartz veins or threads, with visible gold; and 2 ft. of schistose clay-state, soft and unctuous. This constitutes 12 ft., the width of the lode at 30 ft. below the open cutting, which lode is increasing in width as we descend. I believe the average yield of gold will not vary much from 1 1/2 to 2 ozs. per ton, when the amalgamated lode stuff is being worked.

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In my next letter I will give a full account of a mine in this neighbourhood, famous in the time of the old Spaniards: it is on the Palmilla river, and from the specimens I have seen, must be rich indeed. ROBERT COLLYER, M.D.

Fort Bowen Mine, near Aspenwall, New Granada, Nov. 20.

EXTRACTION OF GOLD FROM ITS ORES BY ELECTRICITY.

Sir,—As nothing delights me more than original digests and theses upon original ideas and processes, so nothing is more false than the plagiarisms of the would-be inventors and discoverers. How long has Mr. Calvert delighted in the idea that the extraction of gold may be facilitated, or its proportionate yield increased, by the aid of the matter of electricity—certainly, we never heard of it until I called attention in your Journal for August last to my results on this subject, published in four papers in *Journals* of 1850, entitled *Metallic Metamorphoses*? I have lately operated on some specimens of auriferous quartz from the county of Roxburgh, New South Wales, whose average yield by crushing and mercurial trituration is 12 ozs. per ton; and whilst the process of thermation and electricity is capable on the one hand of reducing this yield to 8 ozs. per ton, it is by modification capable of increasing it to 20 and 22 ozs. gold per ton of the quartz. It appears to me that gold has an allotropic state (like many other bodies) into and from which it may be thrown and recovered, and doubtless gold exists in this peculiar state in many minerals, in which state it is not obedient to amalgamic affections.

I should like to try a 5 cwt. sample of the Chancellorsville quartz when crushed, as being one wherein, from the low ordinary yield, it may be surmised that gold exists allotropicly. It would be both curious, important, and instructive to see the result of this or other low-producing quartz. I am expecting a sample of several tons about March or April (see my advertisement in page 814, second column), whose natural yield is very considerable, and capable of being nearly doubled by electro-thermation, or halved by thermo-electricity; but as I had only about 1 lb. of the quartz, I am anxiously awaiting the opportunity of trying my skill upon hundredweights instead of ounces.—Dec. 16.

W. HADLEY, Ch. Lib.

SWEATING QUARTZ.

Sir,—It is reported that the old and common process of "sweating" quartz has been patented, and that large sums are asked for the patent right. If the Royal Seal were likely to improve the old processes, then I should be one of the first to rejoice in such announcements; but I am afraid, if we are to judge from the various specifications for the extraction of gold from its matrix, the improvement has been anything but on the progressive scale. A man must, indeed, be at his wit's end who could find nothing better to patent than the fluxes used by nearly every assayer when operating upon a few grains of mineral. It is evident these methods are patented for the mere purpose of obtaining money from those who know nothing of the subject, as it would be hard to think the patentees were so perfectly ignorant of the matter as to believe that the method adopted for assaying small samples could be at all practicable, when the commercial result is considered, on a large scale. Assay Office, Savoy, Dec. 21.

JOHN CALVERT.

THE ST. AUSTELL DISTRICT, AND A "BAL CAPTAIN."

Sir,—There can be no doubt that the freedom of the press is the greatest bulwark of British liberty, and it is very proper that the columns of public journals should be open to those who wish to investigate public questions, and the doings of men whose actions affect, more or less, a large section of the community. But this liberty is very often abused, and of which we have two instances in your last two Papers, in the letters of one who conceals his true character under the name of a "Bal Captain." It must be amusing to those who read your valuable Journal every week, and who have studied "practical mining" sufficiently to enable them to value the vague and groundless theories which are now and then propounded therein. The temerity of the writers is only exceeded by the ignorance (they enjoy) of the subjects on which they write. I expect to see a letter in your next Journal from Mr. Ennor, as I am sure he will not be "invariable" and "invaluable" will never be so long as he is his "north-eastern" and "south-western" theory so trumped on and set at naught as the learned "Bal Captain" has done during the last fortnight. This valuable theory is blown to the winds, and "Bal Captain" says the true course of copper is south-eastern and north-western, and gives us what he considers examples from the St. Austell district. Let us examine how far he is correct.

GREAT CRINNIS.—I ask if the "Bal Captain" really ever saw this mine underground, or does he know that there is such a thing as a mine in the large district? I ask him how far he knows how many levels has this cross-course been seen, and whether in the new theory he considers that cross-courses have a bad effect on lodes or not? This cross-course has only been seen in the 17 ft. level, and no other level is within 50 fathoms of it. But most bal captains, who really know the district, think that the other levels should be driven in that direction, when the chances of success would be such as to decide the value of the south-eastern theory. It would be no difficult matter to prove him wrong in East Crinnis, but I will now pass on to South Crinnis. The south-east and south-west theory here is the same as the north-eastern (the lodes) run out under the sea, and have not as yet been followed; and "north-western" they have not produced any copper nor tin. I ask "Bal Captain" why they have not? Because they have not been tried. If he knows the district at all, he is aware that the ground in this direction is unwrought.

WHEAL PALMER.—Poor "Bal Captain" is evidently ignorant of this mine. I am sure his neighbours will sympathise with him in his ignorance in this respect. I beg to ask "Bal Captain" if he can show me ten productive mines in the district, which he says is of such a dark blue as that of this mine? It is surprising that he should be so well acquainted with the advantages of this sett—advantages which, doubtless, the two parallel adits now being driven will soon astonish the world with. CARVATH UNITED.—All who know this mine, and the highly respectable gentlemen connected with it, will be able to appreciate such jaundiced-eyed statements; because a rise was needed for ventilation, the learned "Bal Captain" concludes, without inspection, or without even hearing, but out of the immense fund of his own knowledge, he is sure that the bunch of tin is very short.

WHEAL HEWAS.—This gentleman says in this instance that he has been told "That this mine was never worked to a profit, although vast quantities of tin were taken, or said to be taken, from this mine at the time it was managed by the late Captain S. Lyle. There were smelting works on the sett, and the adventures, as I am informed, purchased tin from other mines, while the London shareholders were led to believe that all the tin smelted at this establishment was the produce of Hewas." I ask a "Bal Captain" if he ever knew a single mine to produce tin enough to keep a smelting furnace fully employed. Of the produce of these mines, the archives of the Stannary Court, and the fortunate owners of the land—viz., the Earl of Mount-Edgemore and Sir C. Hawkins—will testify. His ignorance of this mine is much too palpable to need a word from me, but I should think the relatives of Capt. S. Lyle would answer the charge brought against him.

ST. AUSTELL CONSOLS.—If a "Bal Captain" knew the points of the compass, he would not be long in finding that these mines were not east of Hewas, but north-west. One can scarcely imagine how he could make such a statement, seeing it is in his favourite quarter.—Dec. 14.

BAL.

GREAT CRINNIS MINE, AND ITS MANAGEMENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—May I beg the favour of an insertion of the enclosed reply to Major Carlyon's letter, which appeared in your last Number.—Dec. 20.

JAMES COBBETT.

Sir,—As a trustee of Great Crinnis Mine, and lately taking an active part in its management, my attention has naturally been drawn to your letter in the *Mining Journal* of last week. Permit me to make a remark or two upon the statements therein made. The first impression produced upon noting your letter to me, was that it was a very great distance from the driving pulley, and the narrowness of the belt makes it most difficult, especially in such a humid climate—one moment dry, and the next rain.

When, however, my crusher and other machinery arrives it will be in my power to extract from 1 1/2 to 2 ozs. per ton, more particularly as the stuff has been yielding a higher average than at first, and there is every indication of its continuance. Mr. Tate, who leaves for New York, yesterday, visible gold, pro and con oxide of iron; has been taken from ore not purely from the vein, as that from the shaft was mixed with it. In order to give your readers a more accurate idea, I will give the geology of the country, and particularly of this vicinity.

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BRITISH MINES.

is still favourable for sinking, and is a beautiful stratum. We have employed two men to sink on the counter lode; it is about 6 ft. wide, composed of flookan and goss.

is not every day, every other. The stopes are without change. The lode in the 10 end east is 7 ft. wide, ore throughout; a finer lode cannot be seen, and one that will produce large quantities of ore.—W. Goss: Dec. 19.

reached the cross-course to within 35 fms., running into the Rosewarne. Where good deposits of ore may be expected. The stope in back of adit, on the Lambo lode, is producing some good tin, more than double the expense of taking it away. We have put two men more to stope on this lode, 60 fms. further west, where

The Mining Market; Prices of Metals, Ores, &c.

COPPER.			QUICKSILVER.		
	£.	s. d.		per lb.	per 100 lbs.
Sheathing and bolts .p. lb.	0	1 2	Foreign .p. lb.	23	12 6-25 15 0
Old (Exchange) .p. lb.	0	1 0	To arrive .p. lb.	24	0 0
Best selected .p. lb.	129	0 0			
Tough cake .p. lb.	126	0 0			
Tin .p. lb.	126	0 0			
South American .p. lb.	112	0 0			
IRON.			TIN.		
Bar, Welsh, in London .p. Ton.	9	7 6-9 10 0	English, blocks .p. lb.	125	0 0
Ditto, to arrive .p. Ton.	8	17 6-9 0 0	Ditto, Bars (in barrels) .p. lb.	125	0 0
Nail rods .p. Ton.	10	0 0-10 0 0	Ditto, Refined .p. lb.	129	0 0
Bar, Stafford, in London .p. Ton.	10	0 0-11 0 0	Banca .p. lb.	132	0 0
Bar, ditto .p. Ton.	10	0 0-11 0 0	Straits .p. lb.	128	0 0-129 0 0
Hoops .p. Ton.	11	0 0-12 0 0			
Sheets, single .p. Ton.	12	0 0-13 0 0			
Fig. No. 1, in Wales .p. Ton.	5	0 0-5 5 0			
Refined metal, ditto .p. Ton.	8	0 0-8 5 0			
Bar, common, ditto .p. Ton.	8	0 0-8 5 0			
Ditto, railway, ditto .p. Ton.	8	0 0-8 5 0			
Ditto, Swed., in Lon. .p. Ton.	13	0 0-17 0 0			
Fig. No. 1, in Clyde .p. Ton.	3	16 0-3 16 0			
LEAD.			TIN-PLATES.		
English Pig .p. lb.	25	10 0-26 0 0	Yellow Metal Sheathing .p. lb.	11 1/2	d
Ditto sheet .p. lb.	26	10 0-27 0 0	Wetterstedt's Pat. Met. .p. cwt.	2	2 0
Ditto red lead .p. lb.	27	10 0-27 0 0	Stirling's Non-lamina- .p. lb.	9	0 0-9 2 0
Ditto white .p. lb.	27	10 0-30 0 0	ting, or Hardened .p. lb.	9	0 0-9 2 0
Ditto patent shot .p. lb.	27	0 0-27 0 0	Surface Rails .p. Ton.		
Spanish, in bond .p. lb.	24	10 0-24 0 0	Stirling's Patent .p. lb.	5	5 0
American .p. lb.	none.		Toughened Pigs .p. lb.	4	0 0-4 5 0
FOREIGN STEEL.			Indian Charcoal Pigs .p. lb.	7	0 0
Swedish, in kegs .p. Ton.	19	0 0-19 10 0			
Ditto, in faggots .p. Ton.	21	0 0-21 0 0			
English, Spring .p. Ton.	18	0 0-23 0 0			
BRASS (sheets) .p. lb.	12 1/2	d.			
Wire .p. lb.	11 1/2	d.			

* At the works, 1s. to 1s. 6d. per box less.
+ Thirty days credit, and free on board at Rotterdam. The percentage of peroxide is about 60 for Nassau lump, 60 to 64 for Giessen, and 70 and 73 for ground.

REMARKS.—A considerable business has been transacted in metals generally, but principally for exportation. Sellers are mostly firm at present prices, and there appears a fair chance of their being able to maintain them.

COPPER.—Nothing has occurred to disturb the equilibrium of this metal, a quiet but steady demand still ruling.

IRON.—Transactions have taken place in English iron out of stock at a reduction of 2s. 6d. per ton for shipment; the general quotation, however, remains at 9l. 10s. A cargo of first quality English iron, to be delivered in a few days, is now offering at 9l. 2s. 6d., ex ship. In Staffordshire qualities, there is no difference in price; hoops from stock here have sold at 11l., good quality. In Scotch pigs, a gradual decline has been observed, the demand having somewhat slackened (the shipments of last week amounting to about 5000 tons), being a little below the same period of last year; and little or no speculation in the article caused mixed numbers to recede to 75s. cash; on Tuesday, they were nominally 76s. to 76s. 6d.; on Wednesday, 76s. was accepted; Thursday's quotation was 75s. to 75s. 6d.; and we close to-day, on 'Change, sellers at 75s. cash, mixed numbers, warrants, g.m.b., f.o.b. in the Clyde.

LEAD.—As before stated, remains quiet, but firm in price.

SPELTER.—It was reported in the course of the week that 24l. had been paid for a parcel of 60 tons small plates; but, as it has not been confirmed, it is doubtful whether such a price was paid; sellers who hold small plates quote 24l. However, as actual business, in general, is a greater criterion of the market value than mere quotations, we may say that a parcel of 20 tons small plates changed hands to-day at 23l. 12s. 6d., but we believe that a similar parcel could not be obtained under an advance, as there were buyers at that price unsupplied; holders would sell heavy plates at 23l. 15s. The market closes firm, and should the weather continue to hold, we may probably see increased prices, as our supplies must necessarily be stopped on the other side.

TIN.—This metal having stiffened in price, the English smelters will not sell at present rates, but only subject to the price fixed at their next meeting; consequently there will very shortly be a rise announced in blocks, bars, and refined, possibly 5l. or 6l. per ton. Banca is scarce; 130l. has been paid for 300 slabs, holders now demand 132l. Straits has realised 127l., good quality, and is likely to advance further, buyers being disposed to give even 128l. rather than lose a parcel of fine soft quality.

TIN-PLATES have been in better demand, and prices have tended upwards; the makers are all very indifferent about taking orders till they know what price they will have to pay for their tin. IC coke has sold at 29s., since which 29s. 6d. is quoted as the lowest price, and some manufacturers, even of the ordinary brands, will not book orders under 30s.; IC charcoal, 35s.—sellers.

N.B. The demand for Manganese is considerable, and sales must be reported at full prices.

GLASGOW, DEC. 20.—We have to advise a decline in price, in consequence of small shipments, and of anticipations of less favourable statistics at the end of the year than have hitherto been reckoned on. The principal feature will probably be a large increase in the make, while there will be a decrease of 40,000 or 50,000 tons in the deliveries. The prospects of the money market are also anything but encouraging to speculators for a rise, and the effect of dear money on works requiring iron must not be lost sight of. We have had a fair business to-day at 75s., closing sellers. No. 1, Gartsherrie, 78s.; No. 1, g.m.b., 76s. 6d.; No. 3, g.m.b., 74s. Shipments for the week ending Dec. 15.—Foreign, 983 tons; coastwise, 1857 tons=5840 tons. In the corresponding week of 1854 they were:—Foreign, 1474 tons; coastwise, 4306 tons=5780 tons.

LIVERPOOL, DEC. 20.—The amount of business done during the past week has been limited, and we have nothing of especial moment to report. Scotch Pig-iron has gradually receded to 75s. 6d. for mixed numbers, warrants, f.o.b. in Glasgow, under the influence of iron being freely put upon the market, but to-day a firmer tone is manifested, and sellers are not so readily found at the prices offered by buyers. Welsh Bar-iron is firmer, and an advance of 2s. 6d. per ton has been obtained without difficulty, some good specifications offered at the rates quoted in our last report having been refused by the makers. Staffordshire iron is in moderate demand, but, notwithstanding, the prices are steady, and some makers who were but recently willing sellers of certain descriptions of iron for early delivery will not now accept orders, unless six or eight weeks are allowed for the execution of the same, which shows that orders are not so scarce as they have been. Banca Tin has advanced, and this, added to the firm appearance of English Tin, must operate in favour of full prices for Tin-plates, for which there is a considerable demand, good brands having realised our highest quotations. Lead remains quiet, without any alteration from our last prices. Copper is firm, although parcels of foreign of good standard have been offered at a reduction. In other metals there is nothing to report. The following are the quotations:—Iron: Merchant bar, 8l. 12s. 6d. to 9l. per ton.—Tin: Common block, 125s. per cwt.; common bar, 126s.; refined block, 129s.; Banca, 130l. to 131l. per ton.—Tin-plates: Charcoal, IC, 33s. 6d. to 34s. per box (say 34s.); coke, IC, 28s. 6d. to 29s. (say 29s.).—Lead: Sheet, 26l. per ton; pig, 25l. 10s.—Zinc (sheet), 31l. per ton.—Copper: Bolt and sheathing, 1s. 2d. per lb.; tile and tough cake, 126l. per ton; best selected ditto, 129l.—Yellow metal sheathing, 1s. per lb.—Steel: Swedish keg, 19l. to 19l. 10s. per ton; fagot, 20l. 10s. to 21l.

PARIS, DEC. 20.—All descriptions of iron are very dull; but, though prices are decidedly not so firm, a further fall is not anticipated. A meeting of ironmasters will be shortly held at Paris, for the purpose of addressing the Emperor on the situation in which the mines will be placed if a further reduction of the customs duty, which is believed to be contemplated by the Government, takes place. The ironworks of M. Cave, which occupy between 1500 and 2000 persons, have received so many orders from Turkey, Egypt, Naples, &c., and from the interior, that six years would be required to complete them. Many of his workmen earn from 7l. to 8l. a day. At Hamburg, zinc has been more in demand, and a fair amount of business done for spring delivery. In Lead, there is nothing doing; in Copper, no alteration; and although Tin is very quiet, prices have become firmer. From Charleroi, we learn that the position of the Metal Market in that district continues favourable. A large number of orders for laminated iron and sheets are daily received, and there are also some enquiries for pigs.

MINES.—There is no particular change to be noted in the aspect of the share market this week. Dividend mines continue in good demand, and progressive mines largely dealt in, notwithstanding the near approach of the Christmas holidays. Basset shares have been sought after at 400 to 410; West Basset advanced to 37, 38; North Basset to 43, ex div., and left off at 42 1/2; at the meeting a dividend of 17s. 6d. per share was declared, and the report of the mine very satisfactory; the next dividend, it was stated, would be either 17s. 6d. or 1l. per share. East Rose shares advanced to 50, and enquired for; Grambler and St. Aubyn, 42 1/2 to 45; Boiling Well, 18 1/2 to 19; Trevelyan, 3 1/2 to 3 3/4; Trelawny, 27 1/2 to 28; Devon Buller have been largely dealt in at 3 1/2 to 3 3/4; Rosewarne, 132 1/2 to 135; Hender, 5 1/2 to 6 1/2; Trewetha, 3 to 3 1/2, a good business doing; Nanteos and Penrhwi, 14s. to 15s.; West Alfred Consols have reached 26; Bell and Lanarth, 5 1/2 to 6. At South Garra, a call of 10l. per share has been made. Clifjah, 17 1/2 to 18; Alfred Consols have not been so firm, at 18 1/2 to 19 1/2; Great Alfreds improving in price, 12 to 12 1/2; Vale of Towy, 21s. to 22s.; North Robert, 36; the stopes in the back of the 30 have improved to 4 tons of rich ore per fm., according to the agent's report. At Grambler and St. Aubyn, the 12 cast, on Williams's lode, is worth 20l. per fm.; the winze sinking below the 12, 20l. per fm.; the winze sinking below the adit, 12l. per fm.; the 24 west, on Simmons's lode, 10l. to 15l. per fathom. At Hender, the south lode is 2 ft. wide, and improved, yielding fine stones of grey ore; the north lode is looking better. About 10 tons of good ore will be sampled on Thursday. Sortridge, 5 to 5 1/2; the lode has been cut in the 50 fathom level 3 1/2 ft. wide, 1 ft. of it being worth 1 1/2 ton, or 12l. per fm.; the western end in the 40, 1 1/2 ton; the eastern end in the 40, 5 tons; the eastern end in the 30, 7 tons; the winze sinking below the 30, 1 ton; Bakerley's stopes, 14 tons, or 140l. per fm.; altogether showing a good improvement in the mine. At Mary Ann meeting, a dividend of 1l. 10s. per share was declared, and the report of the mine satisfactory. Bryntails have advanced to 8; South Tolgus have been in good request during the week, and advanced to 100; West Caradon, 125. At Wheal Kitty, a dividend of 2l. per 256th has been declared, and the shares subdivided into 1024ths; the reports from the mine are very favourable.

The following is the Mining Exchange Official List of transactions during the week:—

SATURDAY, DEC. 15.—Carvannall, 9 1/2, 9; Condurrow, 135 to 137 1/2; Clifjah and Wentworth, 17 to 17 1/2; East Basset, 47 1/2; East Alfred, 5s. 6d.; Great Baddern, 15s. to 17s. 6d.; Great Vor, 17s. 6d.; Gomanema, 27 1/2; Lady Bertha, 24s. 6d.; Lelant Consols, 12 1/2; North Basset, 40 1/2, 41, 41 1/2, 41; North Unity, 25s.; North Robert, 35; Rosewarne United, 132 1/2, 137 1/2, 140; South Tamar, 6 1/2; South Frances, 34s. to 35s.; Sortridge Consols, 5 1/2, 5 1/2, 5 1/2, 5 1/2, 5 1/2; Tincroft, 4 1/2 to 4 3/4; West Basset, 35; West Alfred, 22, 22 1/2, 23, 25; West Frances, 35; Wheel Clifford, 550 to 575; Wheel Mary Ann, 36 to 37; Wheel Seton, 190 to 200; Wheel Grenville, 23; Wh. Kitty (Lelant), 37 1/2 to 40; Wh. Unity, 3 1/2; Wh. Zion, 12s. 6d., 15s.

MONDAY.—Botallack, 170, 210, 220; Devon Buller, 3 1/2, 3 3/4, 3l. 4s., 3 3/4, 3 3/4, 3 3/4, 3 3/4; East Buller, 5 1/2; East Tolgus, 26; East Rose, 39 1/2 to 40 1/2; Lewis, 35s.; North Basset, 42, 42 1/2, 42; Par Consols, 18; Rosewarne, 135; Sortridge Consols, 5; Sortridge and Bedford, 6s. 6d., 5s. 6d., 6s.; St. Day United, 35s. to 36s.; Tamar Consols, 3 1/2, 3 1/2, 3 1/2, 3 1/2; Tincroft, 4 1/2 to 4 3/4; Trewetha, 3 to 3 1/2; Trevelyan, 3 1/2; West Basset, 34 1/2, 35 1/2, 36, 36 1/2; Wheal Seton, 200; Wheal Trelawny, 27 1/2 to 28; Wheal Ludcott, 42.

TUESDAY.—Alfred Consols, 19 1/2; Boiling Well, 17 to 18; Devon Buller, 3 1/2, 3 3/4, 3 3/4; East Margaret, 14; Lady Bertha, 21s. to 22s.; Mill Pool, 4 1/2; Nanteos, 14s. 6d. to 15s.; North Basset, 42, 41, 42, 42 1/2, 43; Sortridge Consols, 4 1/2, 5, 4 1/2, 4 1/2, 4 1/2; Tavy Consols, 17s. 6d., 20s., 21s.; Tincroft, 4 1/2 to 4 3/4; Trewetha, 3 to 3 1/2; West Basset, 36 1/2 to 37; West Alfred, 25; Wheal Trelawny, 27 1/2.

WEDNESDAY.—Alfred Consols, 18 1/2; Bell and Lanarth, 5 1/2, 5 1/2, 5 1/2; Boiling Well, 17 1/2 to 18; Clifjah and Wentworth, 17; Great Alfred 9 1/2 to 10 1/2; Great Sortridge, 28s. to 4s.; Ivybridge, 28s. 6d. to 30s.; Lady Bertha, 20s. to 22s. 6d.; Nanteos, 15s., 20s., 13s., 14s.; North Basset, 43 (ex div.), 43 1/2, 44 1/2; North Unity, 4s.; Rosewarne United, 132 1/2 to 135; South Tamar, 6 1/2 to 6s.; Sortridge Consols, 4 1/2, 5, 4 1/2, 4 1/2, 4 1/2; Sortridge and Bedford, 5s. 6d. to 6s. 6d.; South Robert, 4s. to 5s.; Tavy Consols, 18s. to 20s.; Vale of Towy, 21s. 6d. to 22s. 6d.; West Basset, 36 1/2; West Caradon, 125; Wheal Wrey, 9 1/2 to 9 1/2.

THURSDAY.—Condurrow, 137 1/2; Grambler and St. Aubyn, 40 to 42 1/2; Great Alfred, 12 to 12 1/2; Great Sortridge, 2s. 6d.; Ivybridge, 28s. to 30s.; Lady Bertha, 20s. to 21s.; Nanteos and Penrhwi, 14s. 6d. to 15s.; North Basset, 42 1/2, 42 1/2, 41 1/2, 42, 42 1/2; Sortridge Consols, 5, 4 1/2, 4 1/2, 5; Tincroft, 4 1/2, 4 1/2, 4 1/2, 4 1/2; Trewetha, 3 1/2 to 3 3/4; Tavy Consols, 17s. 6d. to 19s.; Trevelyan, 3 1/2 to 3 3/4; Vale of Towy, 20s. to 21s.; West Basset, 36 1/2 to 37 1/2; West Alfred, 26; West Frances, 35; Wheal Grenville, 23; Wheal Zion, 13s. to 15s.

FRIDAY.—Alfred Consols, 19 1/2 to 19 1/2; Clifjah and Wentworth, 16 1/2; Cupid, 12 1/2 to 13; Great Alfred, 13; Lady Bertha, 20s., 21s., 20s.; Mill Pool, 4 1/2; North Basset, 42 1/2, 43, 42, 42 1/2, 43; Rosewarne, 130 to 135; South Caradon, 295; South Tamar, 6 1/2; Sortridge Consols, 5 1/2, 5 1/2, 5 1/2, 5 1/2, 5 1/2, 5 1/2, 5 1/2; Sortridge and Bedford, 5s. 6d.; Tincroft, 4 1/2 to 4 3/4; Trewetha, 3 1/2 to 3 3/4; West Basset, 37 to 37 1/2; West Caradon, 125 to 127 1/2; Wheal Arthur, 7 1/2, 6 1/2, 7; Basset, 40s. to 41s.; Wheal Edward, 3 1/2, 3 3/4.

The following is the Mining Subscription Rooms Official List of transactions during the week.

SATURDAY, DEC. 15.—Lady Bertha, 24s. 3d., 25s., 23s.; East Buller, 5 1/2 to 6; Devon Buller, 3 1/2 to 3 3/4; East Alfred Consols, 7s. 6d., 6s. 6d., 7s.; South Crofty, 5 1/2, 5 1/2, 5 1/2; Clifjah and Wentworth, 16 1/2, 17, 17 1/2; Sortridge Consols, 5 1/2, 5 1/2, 5 1/2, 5 1/2, 5 1/2; Trewetha, 3, 3 1/2, 3 1/2; West Sortridge, 4s. 3d., 4s. 6d., 5s.; Wheal Edwards, 3 1/2 to 3 3/4; South Basset, 400; Bryntail, 5 to 4 1/2; Trelawny, 27; Gilmar, 8 1/2; Carvannall, 9 1/2; Swanpool, 1 1/2, 2, 2 1/2; Molland, 1s. 6d.; South Garra, 140; Great Vor, 16s.; Alfred Consols, 18 1/2 to 19; Buller and Basset United, 5 1/2 to 5 1/2; Wheal Zion, 12; Lelant Consols, 15; South Carn Brea, 12; Great Alfred, 10; Great Hewas, 2s. 9d.

MONDAY.—Great Hewas, 2s. 9d.; Carvannall, 10 1/2; Clifjah and Wentworth, 18 1/2 to 19; Devon Buller, 3 1/2 to 3 3/4; East Wheal Rose, 38 to 40; Lady Bertha, 21s., 25s., 23s. 6d., 22s. 6d.; Sortridge Consols, 5 1/2 to 5 1/2; Boiling Well, 18 to 18 1/2; Great Sortridge, 5s.; Cwm Darren, 4 1/2; Bell and Lanarth, 5 to 5 1/2; Trewetha, 3 to 3 1/2; Sortridge and Bedford, 6s. 3d., 6s. 6d., 7s. 3d.; Great Vor, 17s.; Swanpool, 2 1/2; Porkellis United, 4; Alfred Consols, 18 to 18 1/2.

TUESDAY.—Sortridge Consols, 4 1/2, 4 1/2, 4 1/2; East Buller, 6, 5 1/2, 5 1/2; West Par Consols, 10s. 6d.; Port Bowen, 4s. to 4s. 6d.; Rosewarne Consols, 30s.; North Buller, 45 to 50; Mill Pool, 4 1/2 to 4 3/4; Pedn-an-drea, 2 1/2, 2 1/2, 2 1/2, 2 1/2; Great Vor, 4 1/2; Swanpool, 2 1/2; Alfred Consols, 18, 18 1/2, 19; Clifjah and Wentworth, 17, 16 1/2, 17, 17 1/2; Forest, 10 to 12; South Carn Brea, 12; Wheal Tedy, 2; Great South Tolgus, 5 to 5 1/2; Trewetha, 3 to 3 1/2; Sortridge and Bedford, 7s.; St. Day United, 35s.; Bell and Lanarth, 5, 5 1/2, 6; East Margaret, 14 1/2 to 15; United Mines, 26s.; Vale of Towy, 22s. 6d. to 23s.; Grambler and St. Aubyn, 35 to 36; Nanteos and Penrhwi, 20s.; West Caradon, 115; South Wheal Basset, 41s.; Gilmar, 8 1/2; Bryntail, 5, 5 1/2, 5 1/2; Wheal Kitty (Lelant), 38; North Trelawny, 4 1/2 to 4 1/2.

WEDNESDAY.—Altoget Slate, 1s. 6d.; Boiling Well, 18 1/2 to 19; Sortridge Consols, 4 1/2; Clifjah and Wentworth, 17; Sortridge and Bedford, 6s. 3d., 6s. 6d., 7s.; East Buller, 6; Trewetha, 3 1/2; Pedn-an-drea, 2 1/2 to 2 1/2; Bell and Lanarth, 5 1/2, 5 1/2; North Unity, 4s., 5s.; Lady Bertha, 22s. 6d.; Trelawny, 27s. 6d.; West Caradon, 115 to 120; North Basset, 42 1/2, ex div.; Nanteos and Penrhwi, 16s. to 17s. 6d.; Devon Buller, 3 1/2; Wheal Seton, 200; East Wheal Rose, 45; Trewetha, 3 to 3 1/2; Sortridge Consols, 4 1/2, 4 1/2, 5 1/2; Sparnac Consols, 17s. 6d.; Boiling Well, 18 1/2 to 19; Lady Bertha, 20s., 21s., 19s. 6d., 20s. 6d.; Great Hewas, 3s.; East Buller, 5 1/2, 6; Wheal Grenville, 21 to 22; Sortridge and Bedford, 6s. 6d.

FRIDAY.—Sortridge Consols, 5 1/2, 5 1/2, 5 1/2; Nanteos, 15s. 6d.; South Devon Consols, 9s. to 10s.; Wheal Kitty (St. Agnes), 23 to 22; Wheal Seton, 200; South Tamar, 6 1/2 to 6 1/2; Bryntail, 8 1/2; West Caradon, 120; North Basset, 42, 42 1/2, 43; Lady Bertha, 22s., 17s. 6d., 20s., 20s. 6d., 20s.; St. Day United, 13; South Caradon, 29s.; Castilians, 7s. 6d., 8s. 6d., 9s.; Sortridge and Bedford, 5s. 6d. to 6s.; Swanpool, 2 1/2; Gawton United, 2 1/2; Wheal Guskus, 9s. to 10s. 6d.; Rosewarne Consols, 20s. to 23s.

The following business is also reported to have been done on the Stock Exchange, although the greater portion of the transactions are not in the Official List:—

SATURDAY, DEC. 15.—Sortridge Consols, 5 1/2 to 5 1/2; Clifjah and Wentworth, 17 1/2; Devon Wheal Buller, 3 1/2; South Bedford Consols, 5 1/2; Pedn-an-drea, 2 1/2 to 2 1/2; North Wheal Frances, 10 1/2.

MONDAY, Rosewarne, 130 to 129; West Seton, 200 to 205; South Tolgus, 90; Wheal Trelawny, 26; North Basset, 42 1/2 to 43; West Basset, 35; East Wheal Rose, 41; Tincroft, 4 1/2 to 4 3/4; Sortridge Consols, 5 to 6 1/2; Wheal Hender, 6 to 6 1/2; Ivybridge, 31s. 3d.; Devon Buller, 3 1/2.

TUESDAY.—North Basset, 42; Trelawny, 26; West Basset, 36; East Wheal Rose, 40 to 45; Par Consols, 17 to 18; North Frances, 10 1/2 to 10; Tamar Consols, 3 1/2; Tincroft, 4 1/2 to 4 3/4; Bell and Lanarth, 5 1/2; Mill Pool, 4 1/2; Clifjah and Wentworth, 17 to 17 1/2; Sortridge Consols, 4 1/2 to 4 3/4; Pedn-an-drea, 2; Trewetha, 3; Wheal Grenville, 23.

WEDNESDAY.—Rosewarne United, 130, 132 1/2, 130; Tincroft, 4 1/2, 4 1/2, 4 1/2; Devon Buller, 3 1/2; South Bedford, 5; West Polberro, 2 1/2 to 2 1/2; Wheal Grenville, 2 1/2; Wheal Edward, 3 1/2; Wheal Tedy, 1 1/2 to 1 1/2; Ivybridge, 32s.; Sortridge Consols, 4 1/2 to 4 11-16; Liberty, 3s. to 3s. 6d.

THURSDAY.—Wheal Buller, 620; East Wheal Rose, 50 to 51; North Basset, 42 1/2; West Basset, 37; Alfred Consols, 19; Par Consols, 17 1/2 to 18 1/2; Carvannall, 9 to 9 1/2; Tincroft, 4 1/2 to 4 3/4; Wheal Edward, 3 1/2; Sortridge Consols, 4 1/2 to 5; Trewetha, 3 1-16; Ivybridge, 30s. to 32s. 6d.; Pedn-an-drea, 2 1-16.

FRIDAY.—Sortridge Consols, 5 1/2, 5 1/2, 5 1/2; Tedy, 1 1/2 to 1 1/2; Buller, 620; Rosewarne, 125; Tincroft, 4 1/2 to 4 3/4; Sortridge and Bedford, 6s. 6d.; North Basset, 42; Clifjah and Wentworth, 17 1/2; South Tolgus, 97 1/2; Great Alfred, 12 1/2 to 11 1/2; West Basset, 37.

At Truro Ticketing, on Thursday, the 5973 tons of ore sold realised 31,054l. 4s. The particulars of the sale were—Average produce 5 1/2; average standard, 141l.; average price, 5l. 3s. 6d. Quantity of fine copper, 336 tons 14 cwt. On Thursday next, 3069 tons will be sold at Redruth, and on the Thursday following, 2566 tons at the same place.

At Swansea Ticketing, on Wednesday, 1631 tons of copper ore will be sold—Irish Mines contributing 723 tons. From Santiago, 487 tons; Berehaven Mine, 411; Knockmahon, 146; French Slag, 96; Ballymuriagh, 94; Glasgow Slag, 85; African, 72; Namaqua, 22; Sydney, 76; South Cork, 42; Coosheen, 30; Tuscan, 1; Cape, 9; Slag, 60 tons.

In the Bullion Market.—Mexican and South American dollars, 5s. 0 1/2, per oz., nominal. Bar silver, containing gold, 5s. 0 1/2, per oz., standard. Bar silver, without gold, 5s. 1 1/2, per oz. Gold, 77s. 9 1/2, per oz., standard. The arrivals of the precious metals in England during the week include—2000 ozs. of gold per Candana, and 126,800l. per Panama. The shipments comprise—307,647l. per Alma, and 5400l. in jewelry; per Sultan, 18,800l., besides withdrawals from the Bank and private remittances.

In Brimstone, an average amount of business has been done, at current rates—Rough, 5l. 10s. and 5l. 15s.; roll, 12l. The imports during the week were 9085 tons.

In Saltpetre, a further decline of from 2s. to 3s. has taken place, and business has been done to a limited extent. At auction, 700 bags found purchasers at 38s. The import during the week, were 176 tons, and 170 tons were taken for home consumption. The present stock shows a continued decrease, and is now 4193 tons.

The arrivals of ores and metals during the week are as follow:—

SATURDAY, DEC. 15.—In London, 1220 bars of iron from Sweden, 3124 plates of zinc, 3733 ingots of copper, 310 bags of regulus, 208 pigs of lead, 21 tons of antimony, 180 bags of copper, 14 barrels of cobalt, 600 flasks of quicksilver, and 798 casks of spelter.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Number during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

PERMANENT LIMESTONE IN IRELAND.—Sir: In your Journal of Dec. 15, in the communication from your Dublin correspondent, there is a statement of the discovery of permanent limestone at Ardara, in the County Tyrone, by P. Doran. In order to rectify this mistake, I have to inform you that this discovery was lately made by Prof. King, of Queen's College, Galway, who wrote to me, requesting I would go there and verify it: I did so, taking with me Doran, in order to collect fossils. This limestone occurs about two miles from one of the coal mines of the Tyrone coal field, which has already been described by Mr. Griffith. There are no carboniferous strata near Pomeroy, about which place occur the remarkable Silurian beds described by Portlock, in his *Geological Survey of Tyrone and Londonderry*. Similar permanent limestone is found at Cultra, on the south side of Belfast Lough, a description of which was published by Mr. James Bryce, in the first volume of the *Journal of the Geological Society of Dublin*.—JAS. McADAM, F.G.S.: Belfast, Dec. 18.

SMELTING.—Sir: If your correspondent, "S. D.," will use calcined ironstone of good quality, and a small quantity of lime, in smelting the new red sandstone, he will find it the best and cheapest flux for smelting lead, as the above matrix, the iron combining with the silicious matters in the slags, and liberating the lead. Should ironstone be difficult of access, the oxide of iron from the rolling mill will answer the same purpose equally well, if not better.—LEAD SMELTER: Dec. 18.

SMELTING.—Sir: In answer to your correspondent, who requires a flux for lead ore, which is much (from necessity, I suppose) combined with red sandstone, as he has tried lime and limestone, I should, as an old smelter, recommend him to try fluor-spar; the proportions must be decided from a knowledge of the quantity of red sandstone in the ore or stuff he is smelting.—JOHN H. GILBERT: Kensington.

THE NATIONAL BRITISH MINING ASSOCIATION.—In a leading article in last week's *Mining Journal*, we drew attention to the present position of this association, and a correspondent, which had recently taken place between Mr. Oxenford (in Brazil) with the shareholders, and the report thereto by Mr. Sheppard (the chairman of the committee of investigation). We there suggested the hope that some conciliatory measures might yet be adopted; but from a reply by Mr. Oxenford (the solicitor to Mr. Oxenford) to Mr. Sheppard's remarks, we apprehend a protracted Chancery suit will be the result, and necessary to settle the disputes between the belligerents, though we fear, it will be found to terminate most disastrous to the interests of the shareholders. Mr. Oxenford states that he should not have taken the least notice of the letter, but that an erroneous construction might be put upon Mr. Oxenford's absence, and the silence of his friends; and he hopes that the whole of the case, as between Mr. Oxenford and the shareholders, and as between himself and Mr. Sheppard personally, will be brought before the Court of Chancery, when the whole of the facts, divested of the mystification and misrepresentation with which Mr. Sheppard attempts to surround them, will be laid before the public. In the meantime, the reasonable course of a suspension of judgment is recommended.

WHEAL ZION.—Such a statement as that forwarded us by "A Shareholder," should be laid before the shareholders, at one of their meetings. Our correspondent should exert himself to have a special meeting convened, before which all such important subjects might be properly discussed.

SOUTH BOG MINE.—In reply to "Inquirer," we may state that we believe the London office has been recently removed. The captain gave it as his opinion, founded on considerable experience, that it would, if vigorously worked, turn out a productive mine; but we fear there is little chance of such a consummation, so long as disagreements and personal recrimination absorb the time which should be more profitably employed in attending to the business of the shareholders. The old adage of the "rolling stone never gathering moss" may find an apt illustration in this case. One thing is quite certain, until the management is conducted with more regularity and spirit, the South Bog adventure cannot be worked with even ordinary success, much less profit.

RAILWAYS IN CORNWALL.—Sir: I should be glad to see the continuation of this subject by your able correspondent, "A Mine Adventurer." Being resident in the district, no doubt he has much further valuable information, which would be interesting to such as myself.—A WEST CORNWALL SHAREHOLDER AND ADVENTURER (IN LONDON): Dec. 18.

AVE MARIA COMPANY.—Some quartz was sent from California by Mr. O'Connor, on account of this company. We are informed that he has a considerable claim against the directors for breach of contract; these are now all dispersed. A committee of management was appointed twelve months since, but the results of their labours have not been published. There are, however, no funds in hand, and it is questionable whether the shareholders will ever have anything returned; in fact, it is doubtful if they have any legal claim; the company was not properly constituted. Although it still remains on the list, for a considerable period there has been no business done in the shares.

MR. ENDOR AND "G. D."—Sir: Your correspondent "E. G.," dating from Kewick, ought to have assured himself that he was correct in giving my address, before he informs him and Mr. Endor that I never resided at 8, Windoer-street, City-road; nor do I know anything whatever of the "G. D.," whose advertisement, in your Journal of the 5th inst., is dated from that place. Such carelessness as "E. G.," manifests is to be reprehended; it leads one to suspect that he is of the number who will willingly change a surmise into a positive assertion, and boast his own cleverness.—G. D.: London, Dec. 17.

ALTOUGO SLATE COMPANY.—Sir: A fortnight since you were kind enough to give insertion to some enquiries of mine respecting the local and present position of this company, to which no reply has been given by its careful guardians, though anxiously looked for by me. Surely these self-sacrificing gentlemen cannot have been so dignified that an humble sufferer dare not approach the *seniores*, to ask what they are doing with the property, in the future of which he is peculiarly interested? They have removed the secretary and office; but who can say where? It strikes me forcibly that the remedy is worse than the evil; or Mr. Jeffery, and his compeer, Mr. Knight, whose disinterested efforts for the well being of the company have gained for them the golden opinions of all the shareholders, would not remain silent when duty calls for action.—A SHAREHOLDER: City, Dec. 18.

SOUTH BOG MINE.—In the report of the meeting of this company, published in last week's *Journal*, there were some inaccuracies, which we have been requested to rectify. The liability for lord's dues was stated to be £17, 12s. 6d., whereas it should be £22, 6s. 6d., and the balance in favour of the mine should be £1, 10s. 6d., and not the £1, 10s. 6d., which is at present doubtful, in consequence of the call on a large number of shares, transferred from Messrs. Powell and Cooke to Mr. Fuller, being repudiated by both parties. Notice of a resolution passed unanimously, removing the secretaryship from Mr. Joseph, and appointing Mr. J. Mossop, of Pinners' Hall, secretary *pro tem*, was omitted.

THE UNITED MUTUAL LIFE ASSURANCE COMPANY (CHARGING CROSS).—Sir: Permit me to call your attention to this excellent office, which is especially devoted to the mining population; and not having seen it mentioned in your *Journal*, I assume it to have been overlooked by you; while the Act is strongly supported, I think the United Mutual deserving of that earnest upholding I am conscious it does not at present receive.—A MINER.

DUTTON IRON ORE COMPANY.—We have received a lengthened communication from "K. Q. G.," but to which, in fairness to the parties concerned, the writer's name should be attached, if inserted. We may, however, observe that some important remarks are made respecting the position of this company's affairs. According to the last account of the directors, our correspondent states that the balance in favour of the company was £2551, which is made up by taking credit for calls in arrear and shares deposited, £2697; estimated value of buildings, stock, plant, &c., £5000; and shares purchased in hand of company, £141. By the terms of the lease, the company is bound to pay a minimum royalty of 6000, per annum to the lessors, and more than that sum to the lessees. The lease is for 30 years, and the company, whether they do business or not, are bound to pay that amount, or, in the event of default, the lessors can seize the whole of the buildings, stock, plant, &c., on the estate. Our correspondent concludes that the real state of the accounts would show a balance against the company of £2467, and considers the best course would be to wind-up the affair without further delay. This return was forwarded to the directors.

CARRIGROHUA COPPER AND LEAD MINING COMPANY.—Sir: The committee of management of this company have made a call of 1s. per share, under pain of forfeiture. As the shares are all paid up, I question whether they could enforce this. Previous, however, to this being paid, there are three questions to be answered. What has become of the working capital, how the money obtained by sale of ores has been disposed of, and why shares were delivered to some parties and not to others?—JUSTITIA: Lombard-street, Dec. 19.

ST. AUGUSTINE CONSOLS—NICKEL AND URANIUM.—In reply to the communication of Capt. Prince, in last week's *Journal*, respecting the discovery of nickel in this mine, we have received a letter from Capt. K. H. Williams, denying such claim to the discovery; and stating what he describes as the actual facts. After the discovery of the rich grey copper ore in the old workings, he found, in the same vein, a very ponderous mineral, which he tested and formed the opinion, from its great resemblance to native copper in colour, its brittleness, and throwing down a green precipitate with nitric acid, that it was "copper nickel." Copper gives a green solution, but no precipitate; copper colours ammonia blue; nickel does not. Being a young man, he was cautious of speaking too soon, and had it tested by two chemists, who confirmed his opinion. On this becoming known in St. Augustine, it was generally believed that they had very rich veins of nickel in the mine; and Mr. Stephens, of Charlestown, recommended Capt. Prince, as an assayer, who could test ores of nickel. A specimen was forwarded, which was very accurately tested, and an exact amount of the produce returned. This return was forwarded to Messrs. Johnson and Matthey, in London, with other specimens, to be tested and proved correct. These latter gentlemen were the first to assay the ore of uranium, tested first also by Mr. Williams, who says that on the same grounds that Captain Prince claims the discovery of the nickel, Messrs. Johnson and Matthey should claim that of the uranium. We really cannot see what credit is being contended for. Capt. Prince only claims making the first assay; and Capt. Williams wishes it to be known that his attention was first turned to the ore in the old workings.

DALECARLIA SILVER-LEAD MINING COMPANY.—Sir: At the dissolution of this company, in June, the directors reported that Capt. Barrat had been systematically deceiving them. A few days afterwards that gentleman published a letter in your columns, denying their allegations; this they never contradicted. Judging from the manner in which the property has been sacrificed, the reasonable conclusion to be deduced is, that Capt. Barrat was the scoundrel put forward by the directors to shield their own want of management.—A SUFFERER: Baywater, Dec. 18.

THE TREWETHA MEETING.—We quite agree with "Lex," that it would be desirable to settle once and for all the question, as to which of the two Trewetha meetings, called on Tuesday, was the legal one. The opinions of gentlemen learned in the law were taken, and, as in all other cases, there was no difficulty in finding six of one and half a dozen of the other; and had both parties agreed to disagree, there is no doubt that the balance from last account in the next audit would have told the tale of contention in language that could not be mistaken. The point was, whether it was competent for Mr. Joseph, who had resigned, and was therefore no servant of the company, to call a special general meeting of the shareholders, on the requisition of proprietors who held 250 shares; whilst an adjourned general meeting of those who were *ex officio* empowered to act was being held. The arguments for and against were canvassed, and the general opinion seemed to be that any resolutions come to at Mr. Joseph's would be nullified in the Stannaries Court. Still, *de facto*, it remains a nice point, which would give some work to the gentlemen of the long robe. Fortunately for all, Mr. Joseph had the good sense to give way, and abide by the results of the vote, though adverse to his cause.

TREWETHA MINE.—In last week's report of this mine, the mine sinking below the 30 ft. level was quoted at 50¢ per ton; it should only be 5¢ per ton.

IRON MANUFACTURE.—MR. TRURAN.—Sir: From Mr. Truran's letter, in your *Journal* of 15th inst., that gentleman represents me as stating that "black furnace cinder," in an average of many analyses, contains 20.5 per cent. of peroxide of iron: such, however, was not my meaning, but that the iron from the analyses came out as peroxide. That the greater part of the iron, in cinders of the description above-stated, is in the state of protoxide there is very little doubt; a point, however, of no very great importance, for the equivalent of iron will remain as I stated in the communication referred to by Mr. Truran—namely, 14.35.—S. B. ROGERS: Nant-y-Glo, Dec. 19.

PRACTICAL MINING—AMERICA AND SPAIN.—Sir: In your *Journal* for Oct. 27, Mr. C. S. Richardson gives a description of Old Sinsbury Copper Mines (Connecticut), stating the richness of the mines, and also the difficulty in dressing the ores, in consequence of its low gravity. I am just returned from Spain, where I have been laying out dressing-floors, and have succeeded in dressing the ores, which are similar to those spoken of by Mr. Richardson. Samples of the ores dressed, some of which are brought up to 25 per cent., may be seen at the office of Mr. James Harvey, assay master, Tavistock. If there is plenty of wood and water, I will engage to go out to perform that work, if the company deem it advisable, and will agree to my terms. A young man, who is very clever in assaying, drawing, and mapping, and who assisted me in Spain, would be glad of an appointment there.—WILLIAM HEATH: Tavistock, Dec. 17.

KILBRICKEN MINES.—The author of a communication to the *Mining Journal*, and which appeared on July 12, 1851, respecting the Kilbricken adventure, is requested to address Mr. Deacon, 151, Leadenhall-street.

MAGNESIAN LIMESTONE IN IRELAND.—MR. F. LISABE, C.E., requests us to state that the development of the mineral deposits in the neighbourhood of Castle Blaney and Cultra, consisting of magnesian limestone, beneath which coal is believed to exist, has been delayed, not from the absence of the necessary geological information, but from the impossibility of obtaining a grant of the mineral land from the proprietor. We have forwarded Mr. Lisabe's communications to our Dublin correspondent, who, from local knowledge, will probably treat the subject more dispassionately.

ELECTRIC GAS COMPANY.—Sir: Some two years ago, or more, you gave frequent notices of the Electric Gas Company. Can you tell me whether it ever came into operation, or is likely to do so? or can Mr. Robins, the secretary (according to the *Post Office Directory* for 1855), give any information?—A SUBSCRIBER: Dec. 21.

ROYAL MELBOURNE, SYDNEY, AND ADELAIDE CHARTERED BANK.—Sir: I was much surprised on enquiry at the office, a few days since, to hear from the housekeeper that, although the company still held the offices, for some considerable time neither secretary or clerk had been there. A committee of investigation was some time since appointed, but no report has been delivered. Mr. J. M. Gregor, M.P., was, and I believe still is, the chairman, and probably through his instrumentality we may be enabled to know in what position we are at present placed. Mr. Mackenzie, with an iron house, was sent out to Melbourne to commence business, but for some considerable period we have been unable to obtain any information as to his whereabouts, and the general prospects of the company.—AN ORIGINAL SUBSCRIBER: Reigate, Dec. 18.

WHEAL GUSKUS.—"A Shareholder" complains that there is so large a balance against this mine, contracted in a great measure under Mr. Peter Steinhilber's management. He believes the mine is good, and likely to be productive, and trusts that the present committee will place it, by their attention and industry, in the position which its capabilities deserve.

WHEAL ZION.—Sir: I am one of those unfortunate individuals who have kept "hoping against hope" for a better return than we poor shareholders in this mine are likely to obtain. The Pilgrim's Progress, in striving to reach the hill of Zion, can scarcely be considered more arduous than our endeavours to preserve anything like harmony in our early Zion co-partnership. Judging from your article on Nov. 24, I may fairly conclude you are conversant with all our proceedings; and a more correct remark never was made in your editorial study, than "wherever it goes, misfortune follows, carrying strife and individual bickerings in its train." But, surely, it may be reasonably enquired, why such troubles should be associated with this mine of all others?—AN OLD SHAREHOLDER: City, Dec. 20.

DEVON BURRA BURRA.—"A Shareholder" should address the directors, at the office of the company, forwarding particulars of the transactions he alludes to, and which, we feel assured, would be at once enquired into, and any irregularity remedied.

COMPANY OF COPPER MINERS IN ENGLAND.—The annual general meeting of this company is held in the first week in April. The stock has been several times consolidated. The old shareholders now only receive 1 per cent.; the dividends are paid in April and Oct. The debts, which were under a certain amount, were allowed to be purchased by the Court at a heavy discount. The company has been involved in litigation with several of the shareholders since its reconstitution. It does not follow the objects of the charter, or the intention of the association; they are not copper miners, but copper smelters; they make iron and tin-plates.

"Ops."—We much regret that a pressure on our space has compelled the postponement of a highly interesting communication from our esteemed friend, "Ops." SOUTH ROBERT AND BORTONIDGE.—Sir: I am a shareholder in this mine, which I now am aware does not publish its reports as South Wheal Robert. Capt. Pomeroy will confer considerable benefit upon me, if he will inform me of the pecuniary position and prospects of the mine.—S. R. S.

GREAT WHEAL BUSY (LIMITED).—"A Subscriber" (Wicklow) has addressed to us a lengthened communication, in reply to "An Old Subscriber" (Chacewater); but his remarks are rather too personal for insertion in detail. He hopes the promoters of Great Wheal Busy may go forth energetically with the fork and further development of the mines, which is more than probable will turn up a prize. If Mr. Manucl and his colleagues had reserved a reasonable amount of paid-up shares to themselves, or sold part, or so whole of the mine, and pocketed the money, even had they put 50000, or 10,0000, in their pockets, without expending it, thereon themselves, they would have been entitled to public thanks for their bargain. But it appears that their philanthropy has induced them to give the mine to their friends and the public at large, and then actually to pay, like the stranger, for the amount of shares they intend holding. Our correspondent concludes by suspecting that the Chacewater shareholder is a disappointed applicant for the agency, rejected, most likely, for not possessing the requisite qualifications.

MINING REPORTS.—We received such a mass of mining reports yesterday, that we were quite unable to insert many of them, and were compelled to much curtail others. The plan we adopted, as on other like occasions, was to give precedence to those which bore the latest date. Purveyors and secretaries should send what they have for publication in the *Journal* with as little delay as possible, to ensure insertion.

THE PROGRESS OF MINING IN 1855.

The *MINING JOURNAL* of next week will contain a very elaborate REVIEW OF MINING DURING THE YEAR, by J. Y. WATSON, Esq., F.G.S., Chairman of the Mining Exchange.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, DECEMBER 22, 1855.

Previous to the discovery of America by the Spaniards, the mother country was pre-eminently noted in all Europe for the mineral wealth it produced. It was known that from the earliest periods mines had been worked by the Carthaginians, subsequently by the Romans, and brought into a high state of development by the Moorish inhabitants of the peninsula. Notwithstanding the continual warfare they waged with the Christian population, they in a high degree encouraged the arts and sciences, as well as the more useful pursuits of industry. They erected aqueducts, constructed roads, and the architectural remains they have left as a vestige of the past show they must have been a people of no ordinary degree of civilisation. To this day, when the traveller passes any remarkable work of art, or of more than ordinary utility, the reply to the question of who constructed it is invariably "the Moors." It is a matter of history, that immediately after the conquest of Granada by FERDINAND and ISABELLA, through the bigotry of the Inquisition, an order was given for the expulsion of the Moors from Spain; and thus was that country, by a short-sighted policy, deprived of the most productive and industrious of its inhabitants, and the national prosperity received such a blow, that from that period it gradually fell into decadence, and from being one of the mightiest monarchies in Europe, it has sunk into its present degraded state. After the discovery of America, from the influx of the precious metals, there were partial gleams of prosperity. Gold brought, however, with it its concomitant evils; corruption, dissension, and disunion ensued; the colonies were lost, owing to misgovernment, and hence the present state of the country.

We are led to make these remarks from information lately come to hand, that in the Sierra Nevada, in the province of Granada, several veins of various rich metals, the precious as well as the more useful, have been found, and that to work these, companies will probably be formed in England. Although the present is an inopportune time for bringing any foreign projects before the public, yet there is every probability that, as soon as a favourable opportunity occurs, we shall hear of the wealth left in the Sierra Nevada by the Moriscos, and there will be plenty of local traditions to substantiate any statement, however extravagantly it may be couched. The public have lately had some experience of the waste of capital in California and Australia; it may be urged in extenuation that, when these adventures were taken up, all were equally ignorant, and allured by the glowing reports and seemingly correct statements put forward, the projectors had their worthless scrip greedily applied for, and were enabled to extract large sums of money from their subscribers. This, however, is not the case with regard to mining in Spain. We are not here about to indulge in a sweeping condemnation of all Spanish mines; there are several that are working with fair chances of success; but in many cases there are inseparable difficulties, which will always greatly retard the progress of mining enterprise in that kingdom. In our time we have seen the Guadalcanal—a mine which, at the time of the Emperor CHARLES V., was so rich, that it laid the foundation for the fortunes of the princely house of Fugger-Babenhauer, which is now among the

wealthiest of the Austrian aristocracy. Indeed, so great was its produce, that it was a common proverb, when talking of any rich man, to state he was "Ser rico como un Fucar" (as rich as a Fucar), and a street in Madrid still bears their name. This mine was abandoned by them in the year 1635. An English company, some time since, attempted to drain the Pozo Rico; Capt. John Rule was dispatched over there: after a large expenditure of money, it was abandoned a few years since. The Asturian Mining Company have expended upwards of 200,0000, on their property; this is now working under Italian superintendence by a French company, and unless steps are taken by next March will entirely pass away from the English proprietary.

There may exist deposits of metals in the Sierra Nevada, but of such an altitude that it would be extremely difficult to work them, and previous to any returns being made to the subscribers, it would be necessary that they should make roads and build houses; in fact, form a perfect colony. The distance to a port of shipment must be likewise taken into consideration, as well as the difficulty of obtaining good workpeople; not only would this have to be contended with, but there is jealousy and habitual dislike of Spaniards to all foreigners. Not looking at the benefits likely to accrue to the district by the circulation of money, they regard all with distrust, and have the morbid feeling that they are being plundered of the produce of the country, and the probability is that any company would soon find themselves involved in litigation with the various interests they would encounter. Another subject to be taken into consideration is the heavy cost of materials; if purchased in Spain, the expenses of the working would be materially augmented, and if obtained from England, the duties on them are so heavy, that the same objection occurs in this instance as in the foregoing. Taking all these facts into dispassionate consideration, it must appear patent that any enterprise, conducted under such disadvantageous auspices, is attended with more than ordinary risks, and before capital is embarked the undertaking should be well weighed and understood.

These observations are made in no hostile spirit to mining in Spain, but we opine that no adventure should be undertaken there, unless its capabilities were well known, the local difficulties to be overcome, as well as the expenditure to be incurred, and the titles and grants so clear that all chicanery should be obviated. All that we recommend to those who embark in any mineral project in the Sierra Nevada is that they should use due caution and common judgment, and by so doing they may avoid the rock on which other adventures in that country have been wrecked.

We have this day inserted in our *Journal* a compilation of valuable information for the mining engineer, comprising, in a tabular form, a series of calculations on the horse-power of Cornish steam-engines, having cylinders from 15 to 100 inches diameter. These calculations have been made by Mr. JOHN DARLINGTON, of the house of Messrs. JOHN TAYLOR and SONS, who, from his position and knowledge of the Cornish engine, is so well adapted to inspire confidence in the correctness of his figures and the utility of the details. The diameter of the cylinder being given in the first column, is followed by its area, length of stroke, the load in pounds (less one-fifth for friction), strokes per minute, speed per minute in feet, and horse-power, the last three named columns showing the range of economical and safe working, and the effective horse-power per stroke is also given, that the total value of horse-power, resulting from any given number of strokes per minute, may be easily ascertained. We have inserted this table for general reference by those of our readers who file the *Journal*, but it is published also on cardboard, for the convenience of the office and engine-room, and will, we have no doubt, as furnishing an approximate value of horse-power as rendered by the Cornish engine, be well appreciated by the engineering and scientific community.

THE GREAT WHEAL VOIR UNITED MINING COMPANY held their half-yearly meeting on Wednesday, and the reports and accounts presented appeared to give great satisfaction to all present. We believe these to be the largest tin mines in the world; and, upon the occasion of starting the Trelawny engine, in September last, most of the principal shareholders availed themselves of the opportunity of visiting and inspecting them, and thus to judge for themselves as to the real position of the property. It must have been very gratifying to Messrs. CREASE to have heard how fully their exertions were estimated, not only by the board of directors, but by every proprietor who addressed the meeting. But facts and figures will speak for themselves. Since the commencement of this great undertaking by the present adventurers the tin sold has realised 38,331 11s. 10d., and since the meeting in June, 11,887 18s. 4d., and for the last five weeks, 3016 19s. 10d. It was observed, that such returns in re-opening a mine were unparalleled in the annals of mining, in so short a space of time, where such difficulties had to be surmounted. As to the machinery, buildings, railroads, and general arrangement of the works, it was stated that they were of the most substantial description; and although a large amount had been expended, it was considered that, in the end, the shareholders would be greatly benefited. Two portions of the mines are worthy of especial notice, the Flow and Wheal Metal; the former has yielded a profit of 60000, and the latter, upon which upwards of 80000, has been expended, has already returned the whole amount, with the exception of about 5000. The gigantic works at Wheal Voir continue to progress satisfactorily; and it was remarked by the Chairman, that the calculations made by the captains to the shareholders, at the visit to which we have alluded, have in every instance proved to be underrated.

A shareholder having observed that a report had gone abroad, that the object in registering the shares was to make a call, the Chairman most emphatically stated that such an idea had never entered his mind or that of his co-directors. They had ample funds to develop the property, and he had little doubt but that, from the present time, they would be in a position to declare half-yearly, instead of yearly, dividends.

It is a much-to-be-deplored, but too apparent, fact that, with a few favourable exceptions, the mining companies of Ireland have proved commercial failures—not from any poverty in the mineral deposits of that country, or want of enterprise and liberality in the adventurers, but from mismanagement, the absence of due control over the agents and officials at the mines, and too often deterioration in the value of the shares, through "rigging the market," and misappropriation of the funds of the company. We have on too many occasions had to record such melancholy terminations to what might otherwise have become profitable speculations; and the case of WRIGHT in re the MIZEN HEAD MINING COMPANY, argued before the Master of the Rolls, in Dublin, is one most woefully in point. It recently came again before the Court, as cause to be shown why a conditional order, which had been pronounced, should not be made absolute, and the company wound-up under the provisions of the Winding-up Act. After lengthened arguments by counsel, his Honour delivered judgment. He said the first step the directors had taken was to issue a prospectus, which appeared the name of CHAS. MANLEY BROWNE, who contemplated a project for purchasing the mine, and who contracted with the owners (DOWLING) for it. The purchase money was to be 50000, in money, and 10000, in shares; and it was agreed that, when all the money was paid DOWLING was to assign to trustees. Nothing had been more clearly established than the incompetency of any party to derive gain from a private partnership, and BROWNE, being a promoter, could not do so. The whole transaction was nothing more nor less than a fabrication, and a clear attempt to appropriate the shares, to the prejudice of the other proprietors. It had been established in England that directors are mere trustees, and that any director obtaining one farthing is accountable to the holders; a doctrine laid down in the case of the York and North Midland Railway Company v. HUDSON, which had since been acted upon. The arrangement made was to sell for 85000, and the shareholders were to be defrauded of 35000, of this, which sum was to be divided among the contributors of the plot. In the cost-book no transfer to BROWNE for such a number of shares appeared, but only for 400, which clearly showed the nature of the transaction. It was arranged within 24 hours after the purchase that public were to be deluded, by quoting the shares at a premium; and FROME, a shareholder, said the market could not be rigged under 750. The directors agreed to give 5000, and four cheques of 1250 were put him to carry out this abominable conspiracy.

Many other points connected with subsequent transactions of the directors were adverted upon, particularly a report that gold had been discovered to the extent of 4 ozs. 2 dwts. to the ton of quartz. There was a clause (9th) in the Limited Liability Act, enacting that if directors declared a dividend when the company was insolvent, they were themselves liable. The order was made absolute, and the Court observed that the director who owed one farthing would be made a contributory. The directors should be known publicly that directors are trustees, and are liable to made accountable as such, if they do what is disgraceful.

HORSE POWER OF CORNISH STEAM ENGINES.

THE FOLLOWING TABLE has been compiled with the object of furnishing an approximate value of the Power in Horses rendered by Cornish Pumping Engines, having Cylinders from Fifteen to One Hundred Inches Diameter. The elements employed for the calculations are those most usual with Cornish engines; and the effective Horse-power per stroke is given, that the enquirer may ascertain the total value of Horse-power resulting from working any given number of strokes per minute. The Steam in most of the Cornish Pumping Engines, is only permitted to act on one side of the Piston; hence such mode of working is technically termed "single acting." Recently, however, it has been considered that equal economy is obtained by introducing the steam on both sides of the Piston, and a few Engines are in operation on this principle. The Horse-power of such (doubleshooting) engines may be found by doubling the results given in the Table.

London Dec. 20th, 1855.

JOHN DARLINGTON.

Horse-power, Load in Pounds, and Speed per Minute of Cornish "Single Acting" Expansive Steam Pumping Engines, having Cylinders from 15 inches to 100 inches diameter. Initial Pressure of Steam, 30 lbs. per Square Inch. Temperature 251.6°. Full Pressure of Steam 1 of stroke.—Mean Pressure of Steam 17.8 lbs. less 1-5th friction=14.24 lbs.

Diameter of Cylinder.	Length of Stroke in Cylinder.	Area of Cylinder.	Load in pounds, less 1-5th. for Friction.	Strokes per Minute.		Speed per Minute in Feet.		Horse Power.		Effective Horse Power per Stroke.	Diameter of Cylinder.	Length of Stroke in Cylinder.	Area of Cylinder.	Load in pounds, less 1-5th. for Friction.	Strokes per Minute.		Speed per Minute in Feet.		Horse Power.		Effective Horse Power per Stroke.
				Economical Working.	Safe Working.	Economical Working.	Safe Working.	Economical Working.	Safe Working.						Economical Working.	Safe Working.	Economical Working.	Safe Working.			
Inches.	Feet.	Inches.	Lbs.			Feet.	Feet.	Horses.	Horses.	Horses.	Inches.	Feet.	Inches.	Lbs.			Feet.	Feet.	Horses.	Horses.	Horses.
15	8	176.71	2,516	5	14	80	224	3.04	8.53	.609	58	10	2642.0	37,620	4	10	80	200	45.60	114.00	11.400
16	8	201.06	2,863	5	14	80	224	3.47	9.71	.694	59	10	2733.9	38,930	4	10	80	200	47.18	117.97	11.797
17	8	226.98	3,232	5	14	80	224	3.91	10.96	.783	60	10.5	2827.4	40,260	4	9 1/2	84	200	51.24	122.00	12.810
18	8	254.46	3,623	5	14	80	224	4.39	12.29	.878	61	10.5	2922.4	41,614	4	9 1/2	84	200	52.96	126.10	13.240
19	8	283.52	4,037	5	14	80	224	4.89	13.70	.978	62	10.5	3019.0	42,988	4	9 1/2	84	200	54.71	130.26	13.678
20	9	314.16	4,473	4 1/2	12	81	216	5.48	14.63	1.219	63	10.5	3117.2	44,388	4	9 1/2	84	200	56.49	134.50	14.123
21	9	346.36	4,932	4 1/2	12	81	216	6.05	16.14	1.345	64	10.5	3216.9	45,808	4	9 1/2	84	200	58.30	138.81	14.575
22	9	380.13	5,413	4 1/2	12	81	216	6.62	17.71	1.476	65	10.5	3318.3	47,252	4	9 1/2	84	200	60.13	143.18	15.034
23	9	415.47	5,916	4 1/2	12	81	216	7.26	19.36	1.613	66	10.5	3421.2	48,716	4	9 1/2	84	200	62.00	147.62	15.500
24	9	452.39	6,442	4 1/2	12	81	216	7.90	21.08	1.756	67	10.5	3525.6	50,204	4	9 1/2	84	200	63.89	152.13	15.974
25	9.5	490.87	6,989	4 1/2	10 1/2	85 1/2	200	9.05	21.17	2.012	68	10.5	3631.6	51,712	4	9 1/2	84	200	65.81	156.70	16.453
26	9.5	530.93	7,560	4 1/2	10 1/2	85 1/2	200	9.79	22.90	2.176	69	10.5	3739.2	53,246	4	9 1/2	84	200	67.76	161.35	16.941
27	9.5	572.55	8,153	4 1/2	10 1/2	85 1/2	200	10.56	24.70	2.347	70	11	3848.4	54,800	4	9	88	198	73.06	164.40	18.266
28	9.5	615.75	8,768	4 1/2	10 1/2	85 1/2	200	11.35	26.57	2.524	71	11	3959.2	56,379	4	9	88	198	75.17	169.13	18.793
29	9.5	660.52	9,405	4 1/2	10 1/2	85 1/2	200	12.18	28.50	2.707	72	11	4071.5	57,978	4	9	88	198	77.30	173.93	19.326
30	10	706.86	10,065	4	10	80	200	12.20	30.50	3.050	73	11	4185.3	59,598	4	9	88	198	79.46	178.79	19.866
31	10	754.76	10,747	4	10	80	200	13.02	32.56	3.256	74	11	4300.8	61,240	4	9	88	198	81.65	183.72	20.413
32	10	804.24	11,452	4	10	80	200	13.88	34.70	3.470	75	11	4417.8	62,909	4	9	88	198	83.87	188.72	20.969
33	10	855.30	12,179	4	10	80	200	14.76	36.90	3.690	76	11	4536.4	64,592	4	9	88	198	86.12	193.77	21.530
34	10	907.92	12,928	4	10	80	200	15.67	39.17	3.917	77	11	4656.6	66,310	4	9	88	198	88.41	198.93	22.103
35	10	962.11	13,700	4	10	80	200	16.60	41.51	4.151	78	11	4778.3	68,036	4	9	88	198	90.71	204.10	22.679
36	10	1017.8	14,492	4	10	80	200	17.56	43.91	4.391	79	11	4901.6	69,798	4	9	88	198	93.06	209.39	23.265
37	10	1075.2	15,310	4	10	80	200	18.55	46.39	4.639	80	11.5	5026.5	71,578	4	8 1/2	92	196	99.77	212.56	24.943
38	10	1134.1	16,148	4	10	80	200	19.57	48.93	4.893	81	11.5	5153.0	73,378	4	8 1/2	92	196	102.28	217.91	25.571
39	10	1194.5	17,009	4	10	80	200	20.61	51.54	5.154	82	11.5	5281.0	75,201	4	8 1/2	92	196	104.82	223.32	26.206
40	10	1256.5	17,894	4	10	80	200	21.68	54.22	5.422	83	11.5	5410.6	77,046	4	8 1/2	92	196	107.39	228.80	26.849
41	10	1320.2	18,799	4	10	80	200	22.78	56.96	5.696	84	11.5	5541.7	78,913	4	8 1/2	92	196	110.00	234.04	27.499
42	10	1385.4	19,728	4	10	80	200	23.91	59.78	5.978	85	12	5674.5	80,804	4	8	96	192	117.53	235.06	29.383
43	10	1452.2	20,679	4	10	80	200	25.06	62.66	6.266	86	12	5808.8	82,717	4	8	96	192	120.31	240.63	30.078
44	10	1520.5	21,652	4	10	80	200	26.24	65.61	6.561	87	12	5944.6	84,651	4	8	96	192	123.12	246.25	30.782
45	10	1590.4	22,647	4	10	80	200	27.45	68.62	6.862	88	12	6082.1	86,609	4	8	96	192	125.97	251.95	31.494
46	10	1661.9	23,664	4	10	80	200	28.68	71.71	7.171	89	12	6221.1	88,588	4	8	96	192	128.85	257.71	32.213
47	10	1734.9	24,705	4	10	80	200	29.94	74.86	7.486	90	12	6361.7	90,590	4	8	96	192	131.76	263.53	32.941
48	10	1809.5	25,768	4	10	80	200	31.23	78.08	7.808	91	12	6503.8	92,614	4	8	96	192	134.71	269.42	33.677
49	10	1885.7	26,852	4	10	80	200	32.54	81.37	8.137	92	12	6647.6	94,661	4	8	96	192	137.68	275.37	34.422
50	10	1963.5	27,956	4	10	80	200	33.88	84.71	8.471	93	12	6792.9	96,730	4	8	96	192	140.69	281.39	35.174
51	10	2042.8	29,089	4	10	80	200	35.25	88.14	8.814	94	12	6939.7	98,821	4	8	96	192	143.73	287.47	35.935
52	10	2123.7	30,240	4	10	80	200	36.65	91.63	9.163	95	12	7088.2	100,925	4	8	96	192	146.80	293.60	36.700
53	10	2206.1	31,414	4	10	80	200	38.07	95.19	9.519	96	12	7238.2	103,071	4	8	96	192	149.92	299.84	37.480
54	10	2290.2	32,612	4	10	80	200	39.52	98.82	9.882	97	12	7389.8	105,230	4	8	96	192	153.06	306.12	38.265
55	10	2375.8	33,831	4	10	80	200	41.00	102.51	10.251	98	12	7542.9	107,410	4	8	96	192	156.23	312.46	39.058
56	10	2463.0	35,072	4	10	80	200	42.50	106.27	10.627	99	12	7697.7	109,615	4	8	96	192	159.44	318.88	39.860
57	10	2551.7	36,336	4	10	80	200	44.04	110.10	11.010	100	12	7854.0	111,840	4	8	96	192	162.67	325.35	40.669

INSPECTION OF COAL MINES.

The aphorism, that "property has its duties as well as its rights," is gradually, but surely, eliciting a tardy recognition from the capitalists of England. There was a time when to affirm the power of the Legislature to regulate the operations of private property in its relation to individual labour was considered subversive of law and order, and destructive to the growth and prosperity of the nation. It availed little that thousands perished annually, or heartrending details of "fearful explosions," and "horrible accidents," crowded the columns of the newspapers. The public regretted the disasters, mourned the untimely fate of unfortunate sufferers, and appealed to the better nature of those in whose hands alone the remedy laid, to adopt precautionary measures for preventing the recurrence of evils attended with such fatal and frightful consequences—but to no purpose; it was the privilege of property to do what it liked with its own; and it claimed exemption on this score from the pains and penalties of statutory control or supervision.

Among the great majority of colliery proprietors this doctrine was maintained, with unswerving pertinacity and dogged obstinacy. Fatalist was not more reluctant to give a "reason on compulsion," than were these grasping millionaires to provide protection to life and limb, at the earnest entreaty of the nation. But the importance of the point at issue rendered it imperative that something should be done. The great value of coal, as a source of national industry and wealth, and the awful yearly sacrifice of life incidental to its production, urgently called for a satisfactory settlement of the question, surrounded as it was with manifold and weighty difficulties. On the one hand, it was urged that any interference with the rights of private property would be a dangerous precedent, whilst on the other it was contended that the "social compact" between society and its members recognised no right that did not imply a corresponding duty. If property claimed protection from the State against popular outrage, the working man had an equal right to it—at least, when life was at stake. At length humanity prevailed, and Parliament was induced to take the matter in hand. A select committee was appointed, and the voluminous evidence taken before whom was in part subsequently embodied in a legislative enactment, which was deemed sufficient to meet the requirements of the case.

The late Mr. O'Connell used to boast that he could drive a coach-and-four through any Act of Parliament; and the "vested interest" of the coal fields of England seem to have entertained the same respect for these verbose and intricate documents as the great agitator. However this may be, one thing is quite certain; the Coal Mines Inspection Act, though attended with some beneficial results, was found to be, in many respects, inoperative. The Legislature was, therefore, again called upon to interfere, and further evidence was taken by other select committees in 1852, 1853, and 1854, who, after mature deliberation and anxious investigation, recommended improved ventilation, effectual supervision, increased inspection, and the education of all classes connected with this dangerous branch of commercial enterprise, as the only means to be relied upon for preventing the numerous accidents, periodically occurring in coal mines. In pursuance of these recommendations, a bill was passed last session, entitled "An Act to Amend the Laws for the Inspection of Coal Mines in Great Britain," which will come in force on Jan. 1 next, and will, it is to be hoped, prove more efficacious than the previous well-intentioned but ineffectual efforts in the same direction.

As it is of the utmost importance that every one interested in or connected with mining operations should be familiar with the provisions of this Act, we append an abstract of it, directed of legal technicalities.

After providing for the appointment of Inspectors, a power vested in the Secretary of State, it establishes, by section 4, the following rules (afterwards referred to as general rules), which are required to be observed in every coal mine and colliery, by the owners and agents:—

1. An adequate amount of ventilation shall be constantly produced at all collieries, to dilute and render harmless noxious gases, to such an extent as that the working places of the pits and levels of such collieries shall, under ordinary circumstances, be in a fit state for working.
2. Every shaft or pit which is out of use, or used only as an air pit, shall be securely fenced.
3. Every working and pumping pit, or shaft, shall be properly fenced when not at work.
4. Every working and pumping pit, or shaft, where the natural state under ordinary circumstances is a wet safe, shall be securely cased or lined.
5. Every working pit, or shaft, shall be provided with some proper means of signalling from the bottom of the shaft to the surface, and from the surface to the bottom of the shaft.
6. A proper indication to show the position of the lode in the pit or shaft, and also an adequate break shall be attached to every machine worked by steam or water power, used for lowering or raising persons.
7. Every steam-boiler shall be provided with a proper steam-gauge, water-gauge, and safety valve.

By section 5 it is enacted that, in addition to the above general rules, there shall be established and observed in every coal mine or colliery such special rules for the conduct and guidance of all persons acting in the management, or employed on or about the mine, as may appear best calculated to prevent dangerous accidents. These special rules are to be framed by the owner; they must be adapted to the peculiar requirements of the mine, and submitted to the Secretary of State for approval. If not objected to by him in writing, they are to be taken as established; but should he consider any of them insufficient for the safety of those employed, he is empowered to propose additions and alterations. The owner can, in his turn, object to these, and must in that case, within seven days, nominate three or more practical mining engineers, or other efficient persons, unconnected with the mine, one of whom may be appointed by the Secretary of State, to decide the matter in dispute. In the event of the owner neglecting to nominate, the Secretary of State can appoint two competent parties in the district, who are to select an umpire, whose decision, for the time being, will be final, but without prejudice to any subsequent alterations which circumstances may render necessary.

In order that every one employed on the mine may have a thorough knowledge of the special and general rules, the owner is compelled to have them printed or painted on a board, and affixed in some conspicuous part; and when defaced or obliterated, must renew them with reasonable dispatch.

The powers of inspectors are defined. They can enter and examine mines and

works at any reasonable time—day or night, to see that the provisions of the Act are complied with, and can summon the party in charge of the mine to appear before them to give explanations. If they find the rules wilfully neglected or violated, so as to threaten bodily injury to those employed (should the explanation given be unsatisfactory), the agent or manager will be furnished with a written statement, by the Inspector of the district of his opinion on the matter in dispute. A copy must likewise be forwarded to the Secretary of State. The dispute, as in the case of the special rules, will be settled by arbitration: after which, if the danger or defect is not removed, the Secretary of State may direct that a copy of the decision be hung up in some conspicuous place on the mine, and that one be supplied to every workman to whom it applies, who can, if so disposed, discontinue his services, without being liable to any proceedings.

The owners are bound, for the purposes of inspection, to produce accurate maps or plans of their mines, showing the workings to within six months; or, if required, to time of inspection. If found to be defective, the Inspector may require them to be made again, at the expense of the owner.

Where loss of life or serious personal injury, occurs by reason of accidents, coal proprietors are obliged, within 24 hours, to report the same to the Secretary of State, and the district Inspector, stating the probable cause, under a penalty of not less than 10l., or more than 20l. for every offence.

The penalties imposed are—On masters, for not complying with the provision in regard to hanging up general and special rules, renewing them when defaced or obliterated, and for wilful neglect or violation of rules and notices in writing, any sum not exceeding 5l., and 1l. per day during the continuance of the offence. On workmen, for violation of rule 2l., or three months' imprisonment, without hard labour; or proceedings under the Act George IV., cap. 31; on masters, for neglecting to produce a map or plan of workings, not less than 5l., or more than 10l.; or any one obstructing inspectors in the performance of their duties, 5l., or not exceeding 10l.; and for pulling down, injuring, or defacing notices required by the Act, 40s.

Penalties may be recovered summarily before two justices, and a copy of the rules, established for the time being, will be taken as evidence in all cases. The Secretary of State is empowered to order penalties recovered to be paid to the friends or relatives of sufferers. The operation of the Act is confined to Great Britain, Ireland being exempt; and it is to remain in force for five years.

From the above synopsis of the Act, ostensibly intended to prevent the frequent and fatal accidents in mines, it will readily be perceived that its provisions will mainly depend for efficient operation upon the spirit with which they are carried into effect. In themselves they are, perhaps, too general and indefinite to be of much use; but we must trust in the good intentions of those who have made legislation necessary, and whose passive resistance to the previous enactments, and disregard for the safety of those in their employ, have entailed on so many families misery and destitution.

Under this Act, from some 150 applicants, Messrs. J. J. Atkinson, Wm. Alexander, John Hedley, Lionel Brough, Thos. Evans, and P. Higson, have been appointed additional inspectors of coal mines.

THE IRON TRADE OF THE UNITED KINGDOM.

SIR,—I beg to hand you a complete List of Exhibitors on the Collective Stand illustrating the Iron Trade of the United Kingdom, in Class I., who have received Medals or Honorary Mention at the Paris Exhibition. Several omissions and decisions have been made which are to be regretted; but it will be gratifying to the trade to learn, that of 50 exhibitors no less than 38 were deemed worthy of special notice. I believe this proportion of honour to be larger than has been obtained by any other department (English or foreign) at the Paris Universal Exhibition.

5, Martin's-lane, Dec. 18. WILLIAM BIRD.

SILVER MEDAL—FIRST CLASS.	
Messrs. John Bagnall and Sons	West Bromwich.
" The Bowling Iron Company	Bradford.
" The Board of Trade	London.
" The Butterley Iron Company	Alfreton.
" The Coalbrook Dale Company	Shropshire.
" The Cwm Avon Company	Cwmavon.
" The Cwm Celyn and Blaiddia Iron Company	Blaiddia.
" The Derwent Iron Company	Sunderland.
" The Dowlais Iron Company	Merthyr.
" The Dundee Iron Company	Glasgow.
" John and Edmund Walker	Gospel Oak.
" The Mersey Iron and Steel Company	Liverpool.
" The Rhymney Iron Company	London.
" The Shelton Bar Iron Company	Stoke.
" The Weardale Iron Company	Tow Law.

speculative mining operations may be to a certain extent, the system contains the elements of successful monetary enterprise, and to the shrewd, watchful, and careful investor, may become productive of legitimately profitable, and in numerous cases permanent, results.

IRON AND COAL TRADES OF YORKSHIRE AND DERBYSHIRE.

Dec. 20.—There is a very steady demand for iron, although, from the absence of extensive shipments at this season, the makers are not so overwhelmed with orders as they were two months ago; still, there are enquiries for considerable parcels for delivery next year, and little doubt exists that a very extensive business will be done in the spring. The requirements of foreign railways are gradually filling the Welsh works with orders, even with their immense powers of production; and when these works become employed in making rails, the orders for bars find their way in increased quantities into Staffordshire and Yorkshire. Scotch pig-iron is less firm, in consequence of decreased shipments, and their accumulation in the hands of stockholders. There is less activity in the railway wheel trade than for some months past, the high rate of interest having checked additions to the rolling stock of railways.

The East India Company has recently contracted for several hundred tons of bars, and will, no doubt, purchase large quantities of rails, in addition to contracts recently entered into. The great difficulty experienced in obtaining tonnage has prevented the full development of East Indian railways, but as extraordinary exertions are being made in all our ship-building yards to supply this deficiency, we hope before long to see this state of things remedied.

The Sheffield Trade continues to be languid, and will, probably, not rally from its present depression until the spring trade sets in. The activity which must then take place, we think, will be large, as foreign nations must have our manufactures for their railways, as well as for their growing wants.

The activity in the Coal Trade continues, and with the thermometer 13° below freezing point, we do not think either the demand or consumption will decrease. The colliers are tolerably quiet and contented at their work, although in some districts they have manifested a threatening attitude, and a desire to strike.

Within the last five years lead mining in the Peak of Derbyshire has advanced with giant strides, and has attained a position alike satisfactory to the mining adventurers and apparently to opposing interests, for all property is enhanced in value by successful mining operations, where employment, and the liberal wages attendant on good mining, have infused a great increase of population; and, perhaps, no more decisive proof was ever given of unanimity of sentiment on this head than that combination of every interest and class which was arrayed against the late bill introduced into Parliament, and having a tendency to alter the customs of the mining interest in Derbyshire; that such extensive operations should have been carried out by local capital is somewhat remarkable, and is readily accounted for, when it becomes known that the owner of the soil has no power over the minerals, the miner having by tradition—which has recently been consolidated by Act of Parliament—maintained his claim intact to priority of title to the minerals over the owner of the soil; and so strong is he fixed, that neither he who holds the fee simple nor the Crown can doubt his title to possession indisputably established to himself and heirs, not on the authority of mere points of the law, but by every law and custom; and it is a possession that ensures for him every convenience necessary for the working of the mine and the dressing of his minerals, without one farthing cost, the owner of the soil so far submitting to the substantiality and originality of the miners' rights and claims as to purchase his lands subject to allowing any necessary portion to be converted to the miner's use, together with the use of the nearest stream, and a right of road to the nearest highway or turnpike without remuneration. It is, then, in consideration of these valuable rights that local capital has been found to develop the mineral resources of the High Peak of Derbyshire; and amongst the many dividend mines we may notice that in a few days the Peak United will again afford to its shareholders another of its constant quarterly dividends of 10s. per share. Few mines have required so small an outlay as the Peak United, and none are more constant in their returns.

In February next, the shareholders of the Brightside Mine will arrive, it is calculated, at the great object for which the mine was started—the Botany vein, which was left very rich. In progressing towards it, the company have realised some nice dividends, and we are informed have a good sum in the bank, but are reserving it, lest in making the cross-cut to the Botany vein extra cash should be required. This course is the more prudent than paying dividends too large, and by unforeseen difficulties being obliged to make calls.

An extensive movement is now taking place in the North, having for its object the formation of a High Peak Mining Exchange. The great matter of surprise is that such an institution has not been previously established, and we highly commend the intelligent and respectable originators for this step in the right direction; as it appears to us, that being on the spot, and having the first information, in connection with a local knowledge, they constitute the body who must be the real pulse of the mining interest here; but we would suggest that the institution be represented by the names of brokers in various towns.

THE IRON AND METAL TRADES OF SOUTH STAFFORDSHIRE.

Dec. 20.—Although, at the close of the quarter, when orders are being limited to the actual wants of buyers, the demand during the week has been highly encouraging, and the mills and forges throughout the district are in full work. There is an evident tendency to advance the price of malleable iron; and the opinion seems to gain ground that some of the large houses will go for an advance at the preliminary meeting this day week; I do not, however, believe that any change can be effected at present. The derangement consequent upon any declared advance would more than counterbalance the advantage, and it will not be acceded to if proposed. There is a continued scarcity of good ironstone, and it is now quoted at 20s. per ton. Good hot-blast pig-iron is selling at 4l. 15s. per ton. There is a considerable quantity of inferior ironstone being imported into the district, but it is only purchased from necessity. The demand for rails for America and the Continent is reported brisk, and we have reason to anticipate a continuance of good trade for some time to come. The attention of the masters is still directed to preparing for the new Act of Parliament, which will be immediately coming into operation, for the better regulation of the mines, and numerous meetings have been held within the last few days of the iron and coalmasters, for the purpose of finally arranging the rules by which the miners and others are to be governed. There is, of course, considerable difference of opinion, as to the propriety of the proposed rules; but as they are in the hands of practical men, they will ultimately be found easy of adjustment.

In connection with the district, two very serious accidents have occurred a considerable portion of public attention during the past week. The first occurred on Friday morning last, at the Coppice Colliery, and which was attended with the death of a mother and three children, and dreadful injuries to a number of other persons. It appears that a man named David Millard, a butty collier, employed under Mr. H. B. Whitehouse, of Priorfields, had a large quantity of gunpowder in his house for blasting purposes, and his son was sent to the cellar for some powder, when, from some cause as yet unexplained, a terrible explosion took place, which was heard for miles round, several houses were blown down, and Mrs. Millard, her two children, and a nurse girl, were buried in the ruins. Considering the fact that many of the men entrusted with the care of powder are in the habit of keeping it under their beds, the only wonder is a far greater number of explosions do not take place. The second accident occurred at the new furnaces of Messrs. G. and A. Hickman, at New Town, Bilston. The furnace has been recently erected, and the catastrophe was occasioned in consequence of the tuyere (a kind of socket around the pipe which is joined to the furnace, through which the blast is conveyed, and which is supplied with water for the purpose of keeping it cool) having become in some manner defective, the water escaped into the furnace among the molten iron, and caused an explosion to take place. A large quantity of the iron, which had been reduced to a fluid state, was driven with great force out of the furnace, almost covering five men who stood near. The

keeper of the furnace singularly escaped, and four persons were killed, but there does not appear to be blame attaching to any person.

In the Coal Trade, the utmost demand continues, and it is with great difficulty orders can be supplied at the Cannock Chase and other works. It is not improbable but an advance of 1s. per ton will take place at the commencement of the year, particularly as the weather has now set in with great severity, and a prospect of a continuance.

In the Hollow Iron Trade, the demand is active, and the hands at the various works in West Bromwich and Wednesbury are on full time.

In the General Metal Trades, the orders during the past week have been slack; all orders, except for immediate use, being deferred for the new quarter. Copper is firm, but without any prospect of an advance. Block tin has gone up 2l., and the demand brisk. There is not, perhaps, in the district any branch in which animation is more perceptible than in that of the tubing. The quantity of copper tubes required for marine purposes for the American, French, and home markets is unprecedentedly large, and the extensive works of Mr. Sampson Hanbury, of Smothwick, are employed in executing some very extensive orders. At the London Works they are also busily engaged, and the various foundries between Birmingham and Wolverhampton are still employed casting Government work.

In the Gun manufactures the hands are all actively engaged, and there is no appearance of any abatement whatever of the Ordnance orders.

In the money market there is still a severe pressure, and a growing conviction that a greater issue of paper money must take place before long. A few weeks ago the Birmingham Chamber of Commerce ignored the question; the leading members shelved it by a side-winded motion, but they have now agreed to reconsider it, and there can be little doubt that, on the opening of Parliament, Government will be besieged with applications upon the subject. The banks are of necessity excessively stringent, and no small anxiety is felt for the settlement of large quarterly accounts.

Mr. John David Kind, of Birmingham, has during the past week specified his patent (through Mr. George Shaw), for improvements in spindles for locks and latches, and in attaching knobs or handles to the said spindles.

This invention consists in making spindles for locks and latches, and in attaching knobs or handles to the same, in the following manner:—The spindle consists of a cylindrical or other shaped rod of metal, one end of which is longitudinally slit or divided, thereby forming two nearly semi-cylindrical portions, having a space of about one-eighth of an inch between them. The slit, or divided end of the spindle is formed into a screw, or thread. The knob, or handle, into which the spindle is to be fastened, has a concave screw, or thread, made on its interior surface. In fastening the knob, or handle, to the before-mentioned spindle, the concave screw, or thread, on its end is screwed into, and engages in, the concave screw, or thread, in the knob, or handle. A pin, screw, or cotter, is passed through a hole made in the neck of the knob, or handle, and engages in the before-mentioned slit in the end of the spindle, thereby expanding the two semi-cylindrical portions of the same, which causes the convex screw or thread on their surface to engage tightly in the concave screw or thread in the knob or handle. Both ends of the spindle may be constructed as described, and the knob, or handle, may be adjusted on the spindle, by screwing it to the required distance thereon, and then inserting the pin, screw, or cotter, as described. The inventor sometimes makes the spindle of a square figure, and instead of making a screw, or thread, on the split end of the same, he makes notches, or teeth, which are made to engage in notches, or teeth, made of a corresponding shape in the knob, or handle. By this method of constructing spindles for locks and latches, and attaching knobs or handles thereto, the length of the spindle between the knobs, or handles, may be easily adjusted with great nicety.

STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

Dec. 20.—The Stock Market, notwithstanding some heavy sales, was rather firmer this week, and ½ was the extreme fluctuation. Mining shares were also firmer, and those of the Mining Company of Ireland, being the only ones dealt in, advanced 5s. Business in railway shares was confined to transactions in the leading lines, principally to those of the Great Southern and Western. The half-yearly accounts of this company will be made up to the end of the present month, and the traffic receipts will show an increase of about 30,000l. over the same period of last year; while the receipts of the Midland Great Western line will exhibit an increase of about 95,000l., the accounts being made up to the same period. The Belfast Junction receipts will be about 4000l. more. This latter company have advertised for loans on debentures, to bear interest at 5l. per cent.

The following are the latest prices, as usual:—Consols, 88½; New 3 per Cents, 88½; Hibernian Bank, 32½ ex div.; National Bank, 32; Royal Bank, 20½; Patriotic Assurance, 8; Consumers' Gas, 7½; Mining Company of Ireland, 14½; Cork, Blackrock, and Passage Railway, 9; Dublin and Wicklow, 5½; Dundalk and Enniskillen, 13; Great Southern and Western, 5½; Irish South-Eastern, 5½; Kilkenny Junction, 7½ ex div.; Midland Great Western, 48½; Waterford and Kilkenny, 3½; Waterford and Limerick, 20½.

Another bubble has burst, and the Master of the Rolls in Ireland has had another opportunity of exposing the base practices of those who do not scruple to trade upon public credulity, and to apply to self-purposes the savings of the hard-working and industrious, who are, alas! too easily caught by the plausible statements set forth in prospectuses, and entrust their little capital (saved from, probably, the earnings of years) to men who, instead of guarding their interests, and watching over the property entrusted to their management, violate every principle of trusteeship, and squander in utter recklessness the funds placed at their disposal.

Would I were drawing a fanciful picture!—but, no; I regret to say it is too true, and I know, of my personal knowledge, several who embarked nearly their entire fortune, the savings of years, in the Mizen Head Mining Company, and have lost hundreds of pounds, the shares having been long since utterly valueless. When will poor Paddy cease to be the dupe? Not when unprincipled speculators cease to exist; for as long as the world lasts men will be found ready to deceive their fellow-men; but when, by such exposures as I have to record, his discernment will be sharpened, and he will be enabled by experience, though dearly bought, to separate the corn from the chaff.

A short time since, I had to bring under the notice of your readers the case of the Irish Consols Mining Company, as brought before the Master of the Rolls, the particulars of which will be found in the Mining Journal of June 16; the next on the list is the Mizen Head Mining Company; and although the disclosures made in the first instance are somewhat similar to those made now, still I must say they do not improve on acquaintance—familiarity with the moves does not heighten our admiration for the players. Berdan's machine could not even extract from the flinty hearts of those gentlemen any gold in the shape of compassion for the unfortunate victims of their mismanagement; but the iron finger of the law is upon them; and if we are to take the opinion of the Master of the Rolls as the correct one, they will be compelled to make good every farthing appropriated otherwise than for the legitimate working of the company. As the judgment delivered by the Master of the Rolls is chiefly of a personal nature, I will not further allude to it than to quote from it the following sentence:—"The law should be known publicly in this country, that directors are trustees, and are liable to be made accountable, as such, if they do what is disgraceful." That this is the law should be generally known; and the foregoing statement is, therefore, deserving of the most extended publicity. Suffice it now to say, that the Master has made absolute the conditional order for the winding-up of the Mizen Head Company. The books of the company are to be lodged in Court, and steps taken for the benefit of the creditors. Having said thus much, I will now leave it to your readers to speculate on what company will fill up the third act in the drama.

It is right that every true friend of the country, every respectable member of society, should, as much as possible, endeavour to discourage the introduction of doubtful schemes; and, therefore, I quite concur in the remarks made by the Rev. Professor Galbraith and Mr. Weld, in their recent letters on the china clays of Ireland. But it is equally right to encourage by legitimate means every effort that is made to develop the hitherto neglected resources of Ireland, and to aid every project calculated to give employment to the people. The interesting discussion at present going on, with reference to the clay of the Castle Caldwell estate, is exciting much attention; and the solution of the question as to whether there does exist in Ireland any clay suited to the manufacture of fine porcelain is anxiously looked for, because every one interested in the prosperity of the country is, of course, desirous that a new branch of manufacture should be introduced amongst us. Professor Galbraith, in a letter published by him a few days since, gives an analysis of this clay, and states that he found it to contain 3½ per cent. of peroxide of iron, and about 5 per cent. of alkalis; and, consequently, that on subjecting it to heat, the clay assumed a buff colour, thereby showing that it is entirely unsuitable for the manufacture of fine porcelain. Now, Prof. Cameron, of the Chemical Society, differs entirely in his analysis with that of the reverend gentleman I have named, as also with the conclusions arrived at. He denies the existence of peroxide of iron in the clay when freed from

the micaceous particles, which undoubtedly contain iron; and the proof that he is correct in that the clays made by Messrs. Kerr, of Worcester, from this identical clay, were perfectly white, though subjected to a great heat. However theorists may differ in their opinions, it is not likely that those who have used these clays can be far astray; and, consequently, until Prof. Galbraith is backed by some practical men in his assertions, we cannot entirely concur in his conclusions. A chemist of great experience is about being called in as umpire, and I shall postpone the further consideration of the subject till the result is made known.

“A VOICE FROM THE CITY,” ON MINES AND MINERS.

In a previous communication, I drew attention to the circumstances under which the Mining Exchange was started, and at the same time specified some of the obstacles to fair dealing which it was designed to overcome. Whether the institution has realised the hopes of its projectors will be seen from the tenor of my present letter. In order that any institution should be in a position to claim, as a right, the support and patronage of the public, its constitution and general conduct should be open to public criticism; and, as the Mining Exchange of London is dependent on public support for its sustenance and prosperity, no apology to its members is, I apprehend, required for the tone of my present remarks. To have a managing body of men eminent for integrity of character, and imbued with the spirit of business enterprise, is unquestionably the greatest boon which can be bestowed upon any institution; and more especially so in the case of a young association, started for the purpose of combating abuses grown venerable by age, and of erecting a barrier between right and wrong, such as would be perilous for any man of business to break through or evade; but in order that due respect should be paid by the constituent body to the acts of the executive, it is not only right, but expedient, that the latter should owe their official status to the suffrages of the former. The members of the managing committee of the Mining Exchange, however, with one exception, are self-elected. At the commencement of the undertaking this was necessary, but now that they are surrounded by a body of subscribers, it is right that they should place their seats at their disposal. In such an event, the gentlemen at present in office would, in all probability, be re-elected, with, perhaps, a slight addition to their numbers, in order that all cause for invidious remark from without, as to the present constitution of the committee, might be removed.

Again, they should have a paid secretary—a gentleman not in the mining market, but who possesses sufficient knowledge of share routine to effectually look after the regular business of the Exchange. He ought to be a man of considerable experience in all the intricacies of share-dealing, and who could at all times be accessible to any member requiring his assistance and advice. At present, the secretaryship is an honorary office, held by a gentleman who is not a member, but who is too closely related to two of the directors to satisfy the scruples of a jealous public.

The right to investigate the bona fides of every mine the shares of which are quoted in the Official List, is a privilege which the managing committee have not yet claimed, and which, undoubtedly, some of the members would be very reluctant to concede. If such a power as this, however, were lodged in the hands of the executive, it would be a heavy blow to many unrighteous speculators, by affording the public the means of distinguishing the good from the bad—a boon for which they have hitherto been indebted either to private firms or to individual agents.

The regulation of the prices marked on the Official List is a matter attended with great difficulty. As the case at present stands, every subscriber can mark the price at which he may have either bought or sold shares, without reference to the party with whom the business was transacted; for instance, suppose the price of North Bassets on any day to be 42 to 42½, and any member buying at 42½ should sell to a client at 43½, and quote the business, it would manifestly not be the fair market price; and if such marking be reduced to a system, the primary effect would be to raise the price of the shares with unjustifiable rapidity, and it would operate secondarily in a way detrimental to those members who refrain from taking such heavy profits.

To find a practicable remedy for this complaint is no easy matter, but I would suggest, that the committee should issue a list of the closing prices in all the shares in which business has been marked, which would indicate, at all events, the value of the shares at a certain period of the day, and might deter members from marking such extraordinary prices as they sometimes do. There is a difficulty, also, existing as to the verification of prices, of the unfairness of which any member may have suspicion, as its correctness, or otherwise can only be ascertained by impeaching the good faith of the subscriber who may have quoted the business. Were a salaried secretary appointed, this difficulty would in great part disappear, as it would be part of the duties of his office to examine the list daily, and to look narrowly into any quotation unusually high or low, and would prevent the price-book from being unfairly used in support of either a bull or bear operation.

Such an association as the one under consideration should be able to command both early and reliable information from the mines, which should be posted in the Room for the common benefit. This would be done very effectually at a trifling cost, paying so much per letter, or message, of a given character. If such a course as this were adopted, a more equal tone would be imparted to the market, and a greater feeling of confidence and security in dealing would be the result. The rules of the institution, as shown to me, are not a bit too stringent to meet the case. More vigour in the management, and, if necessary, more money from the subscribers, is all that the Mining Exchange of London requires to make for itself a first-rate position. Let its rules be strictly enforced, without fear or favour, and in the honesty of its members the public will be amply rewarded for their sympathy and support.—City, Dec. 21.

THE IRON TRADE—ITS PRESENT STATE AND PROSPECTS.

Mr. J. Kenyon Blackwell, F.G.S., the eminent authority on iron, its manufacture, and trade, has interested himself in procuring very valuable information respecting the iron-producing districts of the European Continent and America—a portion of which was embodied in a paper read at the Society of Arts, on Wednesday, “On the Present Position of the Iron Industry of Great Britain, with reference to that of other Countries,” having, by a previous continental tour of some months' duration, and visiting nearly every forge in this country, fully prepared himself for affording that knowledge which his previous long and general experience has so well adapted him to the result has been a vast fund of information on the metallurgy and commerce of iron, much of an original character, up to very recent dates, of which we shall on frequent occasions avail ourselves.

Mr. Blackwell states that the civilised nations of the globe manifest at this epoch in so marked a manner tendencies to assimilate themselves, and to approach each other, not only by their mental culture, and their activity in thought, science, and art, but in so far as their geographical position, their climates, and the resources of the lands they respectively occupy, permit them to follow and rival each other in the same industrial and commercial pursuits, that it becomes necessary for those who desire not to be left behind in this friendly rivalry to take care that no available means of success are neglected on their own part. The iron industry of Great Britain rests equally on her mineral resources, her geographical position, and the manufacturing and commercial activity of her community. She is not only the largest producer, but the largest consumer, and the most extensive exporter. The annual production of pig-iron, from a careful comparison of various authorities, appears to be at the present period nearly as follows:—

	Tons
Great Britain	3,000,000
France	750,000
United States of America	750,000
Prussia	300,000
Austria	250,000
Belgium	200,000
Russia	200,000
Sweden	150,000
Various German States	100,000
Other countries	300,000=6,000,000 tons

The author proposed first to take a general view of the mineral resources of those countries which were the principal seats of the production of iron; then to examine the nature of the various processes followed in the manufacture; and, lastly, to give some account of the evidences of progress of this industry at home and abroad, derived from specimens shown at the Paris Exhibition. The first portion only occupied the paper on this occasion.

The ores of iron may be divided into five great classes—the magnetic oxides; the anhydrous hematites, with micaceous and specular ores; the crystalline carbonates, or spathose ores; the earthy carbonates, including the blackband; and the hydrated hematites, and brown iron ores. Iron is also found in the state of a silicate, either alone, or associated with magnesia, lime, or alumina, and united with sulphur, phosphorus, arsenic, and occasionally with other primary rocks; the anhydrous hematites, principally in the gneissose and other primary rocks; the earthy carbonates, the local throughout most of the recent formations, from the coal measures upwards; the local deposits of hydrated peroxide are often covered up by clay and sand, and the ore often assumes the pisolite form.

The immense production of iron in Great Britain rests on her almost inexhaustible supplies of mineral fuel, and on the abundance of ores of the earthy or black carbonates in most of the coal fields. About four-fifths of the iron produced is made in

nearby equal proportions in the three great districts of South Wales, South Staffordshire, and Scotland; Northumberland and Durham follow next, and then Yorkshire, Derbyshire, Shropshire, North and South Wales, Cumberland, and Gloucestershire, complete the list. The only blast-furnaces now existing in which iron is smelted with charcoal are those of the Newcastle Iron Company, near Ulverston, and at Larn, in Ayrshire, supplied by the proprietors of Ulverston, and producing about 2000 tons of iron annually from one furnace in blast in each district. There exist in immense deposits of clay carbonates, and it becomes a question of vast importance whether the great resources of vegetable fuel, in the shape of peat, in which that country abounds, might not be advantageously employed in the production of iron of first-rate quality from it.

In France, the ores of iron are distributed over so extensive an area, that they are more or less worked in nearly 60 departments. In Belgium, the production rests on the abundant supply of valuable hematite ore from the carboniferous limestone of the coal measures, but from the limited nature of the country the supply will, in all probability, remain stationary. Prussia stands next to France, and is rapidly increasing, its resources in ore and mineral fuel being large. In Austria, the iron industry is extended over nearly all the widely-spread provinces of that empire, the largest being Styria and Carinthia. In Russia and Sweden, the iron industry is not likely to extend, from the absence of mineral fuel. The make in Spain is very small, and the processes employed are of an exceedingly crude character, and of the most primitive description. The iron industry of the United States is already highly important, and capable of great extension, which must in a great degree be determined by the available means of transport, and the facility with which the ore can be brought in proximity with the fuel. Iron ores of various classes are largely and widely developed, magnetic oxides accompanying the primary formations which skirt the Atlantic coast, and following them in their western prolongation through the region of the great lakes. Anhydrous hematites occur extensively in the Silurian and Devonian formations. Clay carbonates, frequently changed into hydrated peroxide, occur near the base of the carboniferous series in some localities, and sparingly in the coal measures themselves—as, for example, in the Maryland coal basin, and near Hanging Rock, in Ohio, in the great western Pennsylvania field. This class of ores has not, however, hitherto been found abundantly either in the anthracite coal fields of the Alleghenies, or in the three great bituminous coal fields situated in the Mississippi Valley, west of that range of mountains—that is, in the great coal regions of Western Pennsylvania, Virginia, and Ohio, of Illinois, or of Missouri and Arkansas. But these enormous carboniferous regions have hitherto been so imperfectly explored, that we do not know with certainty to what extent these ores may hereafter be found to exist in them.

In the discussion which followed, Mr. W. Fairbairn said that France, compared with what it was 10 years ago, had made greater progress in the iron manufacture than had been made in this country in the same period. They did not come up to us yet, but it behooved us to see that they did not rival us in quantity. He deprecated the introduction of the hot-blast, as, although increasing the temperature, it deteriorated the quality. In France, there is not less than 600,000 acres of mineral fuel, and he believed, at no distant day, they would produce a much greater quantity of iron, and of a superior quality, than what they did at present.

Mr. Warington Smith could not agree with Mr. Fairbairn's views: he thought France had been making extraordinary efforts to increase the quantity as she had formerly made to improve the quality. Great Britain was well known for the value of her iron, but to have seen the display in the Paris Exhibition, it might have been looked upon as the poorest country in the world. The Chairman, Mr. Blackwell, and other gentlemen, generally reserving the more important discussions remarks to the reading the next portion of the paper, which will take place on Jan. 9.

RAILWAY TRAFFIC.—The traffic returns of railways in the United Kingdom for the week ending Dec. 15 amounted to 374,792, and for the corresponding period of last year to 364,501. The gross receipts for the week ending Dec. 15, 1855, were £170,982, and for the corresponding week of last year to 155,071, showing an increase of 15,911.

The increase on the Eastern Counties Railway amounted to 2278; on the Great Northern to 1986; on the Great Western to 3081; on the London and North-Western to 4800; on the London and South-Western to 2203; on the South-Eastern to 1589;—total, 16,039; but from this must be deducted 191 from the London and North-Western, and 1091 from the London, Brighton, and South Coast, leaving the total, as above, 15,911.

The receipts on the other lines in the United Kingdom amounted to 203,810, and for the corresponding period of 1854 to 188,529; showing an increase of 15,281. In the receipts of these lines, which, added to the increase on the metropolitan lines, makes the total increase 31,192, as compared with the corresponding week of 1854.

At the Wiesbaden Railway Company annual meeting, on Dec. 10, the accounts showed—Deposits on calls, 180,640; interest and transfer fees, 2365; 4s. 10s.; amount due to contractors, including reserves, &c., 37,866;—221,072. 4s. 10s.; caution money deposited, 12,815. 1s. 8d.; land, works, engineering, and preliminary expenses, 173,933. 11s. 11d.; office expenses, salaries, advertising, printing, furniture, &c., 12,864. 2s. 7d.; leaving balance in favour of company, 1561. 8s. 2d. The Chairman, Mr. D. Dunbar, said that the principal item of loss arose through having advanced money to an Australian firm on gold dust, which never arrived; another part was from a forgery; the remainder arose from business losses on bills, &c.; making up a total of 34,400. This would have to be met by the last half-year's profits, 16,256. 6s. 8d., the sacrifice of the reserve fund, and after that a balance of 7743. 7s. 9d. would remain to be made up out of the current half-year. A vote of censure was proposed, but it was negatived, and the report was eventually adopted, as well as a vote of thanks to the Chairman.

In our advertising columns will be found the prospectus of the newly-issued "Compagnie Generale des Omnibus de Londres," or General London Omnibus Company. The capital of the company is £1,000,000, of which £250,000 is proposed to be issued in 100,000 shares of £2 10s. each. The system to be adopted is regularity of service, low charges, and the use of the indicator. Amongst the directors of the company are Messrs. Macnamara, and Willing and Co. One of the managers is Mr. John Wilson, of Islington. The members of the council of surveillance include Mr. Robert Keating, M.P., director of the London and County Bank; and Mr. E. Chadwick, C.B.

At Ludworth Colliery, on Monday, an inquest was held by Mr. Maynard upon the body of James Barry, who, engaged through overworking the engine, whereby the poor man was thrown down the shaft. The rules of the colliery provided that the engine man should not permit any learner to handle the engine during the riding of men, whereas in this case a learner was entrusted for the moment with the handles, when the engine reversed, and the poor man was killed. Mr. Dunn, the Government Inspector, attended the inquest, and as the above facts were clearly proved, the jury returned a verdict of manslaughter against both the brakeman and the assistant, who were committed to Durham Jail to take their trial.

BRITISH MINES AS AN INVESTMENT.—It will be seen by our advertising columns that Mr. Murchison is about to issue a fourth edition of his valuable work on this subject, with an appendix, giving a review of the progress of British mines, and the dividends paid, during the year 1855, with their present position and prospects. This edition is to contain full particulars of upwards of 100 of the principal dividend and progressive mines in this country.

A beautiful gold watch, with its appendages, was last week presented to Mr. John Tattersall, by his co-partners in the Keid Head Lead Mines, for his successful management of them.

MONEY PANIC AND CONVULSIONS.—A pamphlet has just been published by Messrs. Richardson, Cornhill, being "Notes on Monetary Panics and Convulsions, and the Currency of the United Kingdom, with Extracts, References, and Illustrations." The author is Mr. William Savine, consulting actuary, and the brochure is addressed to Lord Viscount Palmerston, First Lord of the Treasury. The author commences his remarks by showing that Mr. Peel (afterwards Sir Robert) brought forward his two Currency Acts on the ground, among others, that it was absolutely necessary to impart steadiness to prices, and soundness and stability to credit. This necessity was arisen from the great evil accruing out of Mr. Peel's system from 1797 to 1819, when prices were greatly elevated, credit ran riot, and numerous banking-house failures were among the startling features of the times. On the other hand, it has been generally felt that the results of the laws of 1819 and 1844 have been very far from realising the hopes of their promoter and his colleagues. The evils attendant on the currency panics of 1825-26 and 1847 are then adverted upon, the scarcity of bank notes, the incessantly fluctuating value of gold, and the consequent stoppage of industrial operations, and the paralysis of credit. The author then takes into consideration the joint-stock system, and quotes largely from a remarkable and widely-circulated pamphlet, by Mr. A. W. Maclean, accountant, of Glasgow, a fifth edition of which is about being published. The general bearing of the facts adduced, and arguments employed, are to prove that the immediate wants and interests of trade, commerce, and industry, are in favour of his proposition for a National Bank of Issue and Deposit, and the establishment of a currency, founded on real accumulations, and on the faith of the whole people, pledged for their common benefit. The author has abstained from perplexing his readers with multitudinous figures and statistics, and in his arguments ably supports the principle which he is desirous of seeing in operation.

SHEFFIELD, Dec. 19.—The price of most of our mining shares is rather higher, and for nearly all of them we have more buyers than sellers. Cranshaw have been in good demand, but no transaction, in consequence of there being no sellers under 5s. The Eyan Mining Company are getting a large quantity of lead in all their workings, and the mine was never known to present a more promising appearance. The last sale of ore at Wheel Mary Great Consols realised about 612s., and it is expected that there will be no necessity for further calls. The Brightside Mine is looking extremely poor, and the shares are offered at reduced prices, without finding buyers. The following are the quotations:—Cranshaw, 3½ to 5; Brightside, 54 to 56; Eyan, 24 to 25; Peak United, 8½ to 9½; Prince of Wales, 7½ to 8½; Great Sheba, 3½ to 4½; Wheel Mary Great Consols, 1 to 1½.—E. SMITH AND SON.

From Wheel Grenville, Capt. G. R. Odgers reports that in the 70 fms. level they have got through the vein, and intersected a branch of spar, with peach and spots of yellow copper ore. At Newton's engine-shaft, the summen were cutting pit at the 30. In the 18 west, the lode continued in the kilias, which at times showed a promising appearance; in the eastern end it was large, and congenial for the work they expected in depth to lay open a valuable piece of ground. The pitches in the 15 were turning out well, and they had sampled and weighed 60 tons of stuff, which would produce 30 cwt. of black tin; and they had, unsampled, as much as would produce 115s. to 120s.

TEN POUNDS REWARD.—LOST TWO BANK OF ENGLAND NOTES.—Of £50 each, No. 290,775, dated Manchester, 24th January, 1855; and No. 11,29,581. Whoever will restore the above to the Mining Journal office, No. 26, Fleet-street, London, shall receive the above reward. N.B. Any party uttering the notes after this notice will be prosecuted. Dec. 11, 1855.

LEICESTER COLLEGIATE SCHOOL.—The Rev. HUMPHRY DAVY MILLETT (one of the Assistant Masters), who receives a small number of boarders to fill up ONE VACANCY. Terms, £50 per annum, including Board, and Instruction in Classics, Mathematics, Chemistry, History, Geography, French, Grammar, and Drawing. Reference may be made to Rev. J. F. Isaacson (late Tutor of St. John's and King's Colleges, Cambridge), Freshwater Rectory, Isle of Wight; G. B. Habbuck, Esq., Rhymer Ironworks; C. R. Moate, Esq., 65, Old Broad-street, London. 54, Sparkenhow-street, Leicester, Dec. 20, 1855.

WEEKLY LIST OF NEW PATENTS.

APPLICATIONS FOR PATENTS, AND PROTECTION ALLOWED.
E. Jeffreys: Construction of furnaces.—W. K. Hall: Boilers for generating steam.—T. Hitt: A new method of obtaining power for propelling vessels and certain new propelling machinery.—W. H. Aston and S. Hopkinson: Steam boiler furnaces, and apparatus employed for supplying water to steam-boilers.—A. Barclay: Indicating the pressure of steam and other fluids, which improvements are also applicable to governors and other regulating apparatus.—F. A. Wilson: Engines, machinery, and apparatus for exhausting, forcing, and lifting, for propelling on land and water.—J. Burrows: Apparatus for winding coils or other minerals from mines, which said apparatus is also applicable for other similar purposes, and for machinery required for forming or constructing such improved apparatus.—W. Barnes: Connecting and supporting the ends of the rails of railways.—R. W. Swinburn: Furnaces, used in the manufacture of glass.—J. W. Foster: Registering the number of revolutions of a wheel of a locomotive-engine, or railway or other carriage, at any given period.—W. Irlam: Crossings for railways.—R. Hancock: Cleaning and separating ores of every description when brought into a state of low pulverisation.—J. M. Napier: Drying small coal.—E. Poulson: A new constructed engine to be worked either by steam or principally by manual labour.

JENKIN'S DOUBLE-REVERBERATORY LEAD AND COPPER FURNACE.—The result of a trial of this invention on 1594 cwt. of ore, of rather a poor class, averaging from 68 to 70 per cent., is a produce of lead scarcely up to 60 per cent., 59.4-5ths being the nearest representation. Although the new bottom was not calculated to take much lead, being superior in that respect to anticipation, we may add that in this statement nothing is allowed for any amount of absorption by it, although the first charge of ore is included in the 1594 cwt. The oxide collected in flues attached to ordinary ore hearths, the flues extending (say) two-fifths of a mile, would average from 2½ to 3 per cent.; and the oxide or soot from reverberatory furnaces, having a similar length of flue, is not inconsiderable—consequently, allowing that the bottom is so perfect as not to absorb lead to a considerable amount, the point for further consideration is the amount to be added to the above per centage for oxide in the flue dust, regarding which each practical smelter will form his own opinion. We have reason for believing that some features in the furnace will be modified, and that a yet further increase in the saving of fuel and lead or copper will speedily be effected.

PREVENTION OF RAILWAY ACCIDENTS.—Mr. H. J. Kaye, C.E., in conjunction with Mr. Percy Burrell, has recently patented an invention for the above purpose, by the use of a piston in motion, by which, by looking at a small dial placed on the engine, the distance they are, at all times, from any train, either in advance of or following them. Station masters are also enabled to ascertain the whereabouts of any train and its rate of speed. We shall be in a position to give a more detailed description in an early number.

SUSPENDED GIRDER RAIL-RAILWAYS.—Mr. W. Bridges Adams, C.E., of the Adelphi, recently patented a new description of rail, named by him as above, which about a month since was laid down on part of the up-line of the Great Northern Railway, over which the heavy coal traffic passes to the station in Maiden-lane, and on Monday last the same was examined, and some experiments tried upon it. It consists of a rail similar to the ordinary one, but 2 in. deeper, being 7 instead of 5 in. deep. It is a flange at top and bottom, and on each side angle brackets, one side of which fills up the space between the flanges, and the other to the rail by bolts, the other extends outwards, forming a sort of longitudinal shelf at each side, level with the ballast, so that when packed all that is seen is 2½ in. rising above the brackets. These form a secure bearing of 13 inches wide. The ballast is packed from each side, and thus secures the permanent way. The gauge is kept correct by tie rods, about 9 ft. apart, no wooden sleepers are employed, and the entire rails and appendages, consisting of rails, brackets, bolts, and tie rods, are of wrought-iron; the whole, when complete, forms one compact mass. The iron is the production of the Elbow Vale Works; the rails are 18 ft. in length, and the brackets 9 ft. No mistake can occur in putting the various parts together; and the packing being close to the surface, the greatest regularity can be preserved under the bearers, so as to give a uniformity to the bearing weight unattainable by the common method. The portion of the line where the experiment was tried has a gradient of 1 in 110; coal trains of 300 tons, and the heaviest engines, pass over it about 60 times a day. The ballast, for about 6 feet in length, at two or three places, was removed from under the rail and bearers, and an engine of 35 tons weight passed over several times, when the deflection did not exceed the eighth of an inch, and was considered a perfectly satisfactory test. The weight of the rail is 84 lbs. per yard, the brackets the same, making 168 lbs. per yard. The cost would be 300l. per mile over the ordinary system; it was, however, explained that the workmen could pack and complete 100 yards of the new rails in less time than they could open 20 yards on the old plan, prior to packing.

WORKING STEAM EXPANSIVELY IN ONE CYLINDER.—Mr. E. Carrett, of the San Foundry, Leeds, has taken out a patent for such an arrangement of cylinder and piston as will cause the elastic force of the steam to operate twice, by being admitted first at high-pressure on one side the piston, and afterwards on the opposite one, which is of a much larger area, where its expansion is completed before being finally condensed or discharged into the atmosphere. The trunk is made of such convenient size as to slide inside a suitable guide or chamber in the end of the cylinder, in such manner that the steam may act on the effective area, simultaneously with the area remaining of that side the piston; being thus guided and supported on both sides against the oblique pressure of the connecting-rod, while the total surface of one of its sides is not lessened, upon which the steam acts on its second entrance into the cylinder. This is accomplished by constructing the cross-sectional area of the smaller ram of a different form to that of the closed chamber in which it slides, and by which the trunk, so as to follow the steam freely from the cylinder into the vacant space between the two. The sides of the chamber or hollow guide, can also be made adjustable, so as to compensate for the wear, in lieu of the piston rubbing against the actual sides themselves. To compensate for the inequality of pressure in condensing engines, which would otherwise be felt on the piston in the two directions of its motion, from the united effect of the steam and vacuum, the trunk is made a ram on that side the piston on which the steam first acts to work steam-tight in a closed chamber, the inside of such chamber being kept open by a pipe leading to the condenser, maintaining a constant vacuum inside the same.

IMPROVED EXPLOSIVE APPARATUS.—A report has been laid before the Austrian Academy of Sciences, by M. Ebner, Major of Engineers, on the subject of employing electricity, or, in addition, for the purpose of exploding mines of gunpowder or blasting in stone and other engineering operations. The former is preferred in the report, because the amount of effect of the voltaic battery depends on the quality of the conductor through which it acts. The apparatus employed by the Austrian Corps of Engineers consists of two discs, 12 in. in diameter, and the charge is made by merely placing a point between the plates. The conductor consists of soft brass wire, and each apparatus is furnished with 2000 fms. of plain wire, and 400 fms. of insulated wire, being coated with gutta serena. The explosive substance employed is a mixture of sulphur, saltpetre, and chloride of potassium, which can be made with ease, in the form of a cartridge, and placed at any part of the conducting line. With these machines, explosions have been effected at a distance of a German league and a half; and 50 mines discharged, simultaneously, on a line of 100 fms. Under water, explosions have been effected at 400 fms. distance, the conductor extending to the length of 500 fms.; and the effects totally independent of season or weather. They have been in use at the marble quarries near Neustadt for two years, without the loss of a single life; and numerous discharges have taken place in the Danube for clearing the navigation.

DUNN'S PATENT DUPLICATE RETORT STEAM-BOILER.—We inserted in the Mining Journal of November 24 a description of this novel boiler, and have now to record some experiments made at the Windsor-bridge Iron-Works, Fencham, on Thursday, with the view to test the strength and powers of resistance of cylinders made on this principle. The boiler is composed of a series of nine cylinders, 10 feet long, and 19 in. diameter, of ¼ in. Staffordshire plates, having strong cast-iron ends, which serve for man-holes. The advantages claimed for this description of boiler are simplicity of construction, economy, the small size giving immense strength, that any portion can be easily replaced by others, and their extreme portability. The experiments were made with a powerful hydraulic press, the force of which the cylinder withstood up to 250 lbs. on the square inch, when small jets of water began to ooze from around the rivets, and the escape increased with the power so much that a powerful force-pump was obliged to be added, when the injection exceeded the leakage. The pressure was forced up to 525 lbs. to the inch, when it burst with a loud report, showing a horizontal rent between 2 and 3 ft. long, in a line with the rivets. The experiment was considered highly satisfactory.

REDUCTION OF AURIFEROUS QUARTZ.—We have had an opportunity, during the week, of visiting the laboratory of the Royal Panopticon of Science and Art, to witness some experiments by Mr. Harris, of Dolgelly, assisted by Mr. Ansell, the professional chemist of the institution, for the economical extraction of gold from its matrix. The process is, we believe, a modification of an old German method, named by the extensive experience and important chemical discoveries of modern times. The ore is from the Chancelorsville Mine, in Virginia quartz deeply coloured with the red oxide of iron; this is first calcined, and reduced to an impalpable powder, which is then placed in a glass retort immersed in a cistern of water, kept up to boiling temperature; this is connected by glass tubes, with a generator, in which chlorine gas is produced by the decomposition of the black oxide of manganese, acted upon by hydrochloric acid. This gas passing through, and thoroughly saturating every particle of the gold-dust, hitherto invisible, converts the same into a soluble chloride of gold. The sand thus washed, the chloride consequently dissolved, and a stream of carburetted hydrogen being passed through the solution, precipitates the metallic gold in the form of a deep purple powder. In one portion of the apparatus a particle of leaf-gold was placed in a glass tube, to show the effects of chlorine on metallic gold, and which was rapidly acted upon by it, being converted into a beautiful green chloride, lining the inside of the tube like a web. The process is expected to be very economical on a large scale.

In the Insolvent Debtors' Court, on Saturday, George Hookaday, a mining agent, carrying on business at Windsor-bridge, and described as of the Great Western Hotel, Paddington, and several other places in London, applied to be discharged. Mr. Sargood appeared for the insolvent, and Mr. Hughes opposed on behalf of one of the detaining creditors, a Mr. Lambert, civil engineer and surveyor, of Pimlico. The principal charges were that he had not returned a true account of his property, and a chest of silver plate was in the possession of a party at Baywater, which the insolvent admitted was not deposited as security, as in fact he never was indebted to him. The insolvent was discharged, upon the understanding that he should accompany the agent of the Court to the house where the plate was alleged to be left, in order that it might be recovered for the benefit of the creditors.

M. R. EMERSON, SHARE DEALER.
3, COPTHALL BUILDINGS, THROGMORTON STREET, LONDON.
BUSINESS TRANSACTED IN DIVIDEND AND PROGRESSIVE MINES, BRITISH AND FOREIGN RAILWAYS, and every other description of STOCK.
FOR SALE.—30 Swanpool, at 30s. per share; 700 Great Hewa, at 3s. 6d. per share; 300 Union Tin, at 16s. per share; and 2 (1-6th) shares in a Slate Quarry, at £100 per share, working by a private party, which will pay full 25 per cent. interest on the purchase.—Apply to Mr. R. EMERSON, No. 3, Copthall-buildings, Throgmorton-street, London.

MINE SHARES.—FOR SALE, FORTY SWANPOOL, at 27s. 6d. Apply to "E. U." Post-office, Throgmorton-street, City.

MESSRS. C. H. J. GEDDES, W. BURGAN, AND CO., MINING AGENTS, 60, GRAECHEURCH STREET, CITY, have OPENED AN OFFICE, as above, for the purpose of DEALING IN SHARES, as under:—
Hawke, Swanpool, Pannace Consols, Perran Wheel Mary Ann, Wheal Kitty (St. Agnes), Ganton.

PROFITABLE INVESTMENT.—FOR SALE, A LARGE and PROFITABLE BUSINESS of a COAL MERCHANT, at the West End of London, where 10,000 tons of coals are annually sold, and can be considerably extended, leaving an amount of profit of not less than £1200 per annum. There is a complete stock of horses, vans, and every other requisite for carrying on this important concern.—For further particulars, apply to Messrs. C. H. J. GEDDES, W. BURGAN, and Co., 60, Graecheurch-street.

INCOME WITH OR WITHOUT OCCUPATION.—Any GENTLEMAN acquainted with the IRON TRADE of South Wales and Staffordshire, who can command about £1000 as a loan for one, two, or three years, may have the above ADVANTAGES, and a long leasehold security for his advance. Particulars will only be given personally to principals.—Letters, with real name, &c. (in confidence), to "Zeta," care of Mr. DARE, news agent, Birchin-lane, London.

TO MINING COMPANIES.—WANTED, by a MINE AGENT, who has been engaged in foreign service, and is practically acquainted with mining operations, a SITUATION at home or abroad. A high salary at first is not so much an object as a permanent situation under a highly respectable company. References and unexceptionable testimonials can be given.—Address, with particulars, "A. A. A." Mining Journal office, 26, Fleet-street, London.

WANTED, A PARTNER OR PARTNERS, with a capital of about £5000, to take the HALF-SHARE in a valuable and improving MINERAL PROPERTY and MANUFACTORY, capable of realising a steady annual profit of from £2000 to £3000. The property and factory (partly freehold and partly long leasehold), with the plant, are valued at £7000. The works have been successfully carried on for several years past by the present proprietor, whose object in seeking a partner is to enlarge and extend the business.—For particulars, apply to J. W. ARNOLD, Esq., 26, New Bridge-street, Blackfriars, London; or to G. B. MURLEY, Esq., solicitor, Langport, Somersetshire.

WANTED, A SITUATION as MINERAL or UNDERGROUND SURVEYOR, by a YOUNG MAN (30 years of age). The advertiser, who can execute finished plans, can also be well recommended as an underground surveyor. Would have no objection to fill up his time in an office, or take a situation as assistant to a mechanical draughtsman or land surveyor. Has been a colliery agent. Has good testimonials.—Address, "C." Mining Journal office, 26, Fleet-st., London.

WANTED, by a YOUNG MAN (Aged 22), who has had much experience in PRACTICAL MINING, is a competent ASSAYER, DIALLER, MINING ACCOUNTANT, &c., a SITUATION; he would prefer going abroad, though an appointment at home would not be objected to. A large salary not so indispensable as an immediate engagement. Unexceptionable references can be given.—Address, "J. W. J." Mining Journal office, 26, Fleet-street, London.

WANTED, by a YOUNG MAN, practically acquainted with mining in all its details, and who has had several years' experience in dressing copper and lead ores, a SITUATION as MINING AGENT, to go abroad. Unexceptionable references will be given, and security, if required.—Apply, by letter, to "A. B." 130, Lillington-street, Pimlico, London.

WANTED, THE MINING JOURNAL at HALF-PRICE; to be posted Monday evening.—Address, "A. B." 3, Woodland-terrace, Midsay-park, Islington.

WANTED TO PURCHASE, A NEW or good SECOND-HAND CYLINDRICAL BOILER, about 4 ft. in diameter, and about 26 ft. long, for a low-pressure engine.—Apply to ROCK COAL CO., Newport, Monmouthshire.

LEAD MINES.—There is a FINE FIELD for LEAD MINING SPECULATORS OFFERED to the public, of large extent, between the Rivers Nidd and Wharfe.—Applications to be made to J. YORKE, Esq., Beverley, Ripon.

TO IRONMASTERS.—DUSTON IRON ORE COMPANY.—This company is NOW in a POSITION to SUPPLY IRONSTONE from their Works at Duston, in the county of Northampton, at 3s. 3d. per ton.—Tenders for any quantity required to be sent to Mr. THOMAS NUNN, Wellington Chambers, Cannon-street, London.

GREAT WHEEL BUSY UNITED MINING COMPANY (LIMITED).—Notice is hereby given, that the SHARE LIST is now CLOSED, and that the DEPOSITS on the shares must be PAID to the bankers of the company, Messrs. Martin and Co., of Lombard-street, London; or to Messrs. Tweedy, Williams, and Co., of Truro and Redruth; on or before the 10th January, 1856. By order of the Board, R. C. MANUEL, Secy.

WHEEL TREASURY, SITHNEY, CORNWALL.—NOTICE.—Any PERSONS who may have CLAIMS on the adventurers of this MINE are earnestly solicited to SEND THEM to the undersigned forthwith, as the assets in hand are about being distributed, and the offices relinquished. 75, Cornhill, Dec. 21, 1855. D. G. GOATLEY.

ROYAL SANTIAGO MINING COMPANY.—The directors of this company hereby give notice, that they have this day made a CALL upon the shareholders of ONE POUND per share, to be paid to the company's bankers on or before the 29th day of November, 1855.

By the terms of the agreement constituting the company, all shares of those proprietors who do not pay the said call of £1 per share within 30 days after the 29th November will be absolutely forfeited. The form to make the payment will be delivered upon application at the office, and the certificates must be lodged at the same time to have the payment endorsed thereon. 38, Broad-street-buildings, Sept. 26, 1855.

ROYAL SANTIAGO MINING COMPANY.—The Directors hereby give notice, that the HALF-YEARLY GENERAL MEETING of the shareholders will be HELD at the office of the company on Wednesday, the 23rd January next, at One o'clock precisely, when the directors will make their report. 38, Broad-street-buildings, Dec. 13, 1855.

MEXICAN AND SOUTH AMERICAN COMPANY.—The TWENTY-FIRST DIVIDEND, of SEVEN SHILLINGS AND SIXPENCE per share on the shares of this company, free of income tax, will be PAID on or after the 19th January, between the hours of Eleven and Three. Forms for claiming the dividend may be obtained by the shareholders on application at the office. 17, Graecheurch-street, Dec. 12, 1855. HYDE CLARKE, Secy.

M. R. TREDINNICK, of No. 4, AUSTIN FRIARS, LONDON, and CAMBORNE, CORNWALL, STOCK and SHAREBROKER, GENERAL DEALER IN SHARES IN BRITISH MINES, MINE INSPECTOR, and GENERAL AGENT, OFFERS HIS SERVICES to capitalists and the public, in the SELECTION and PURCHASE of SHARES of every denomination. Many of the mines of Cornwall pay large rates of interest upon the current value of shares, in many cases 15 and 20 per cent. per annum, without the corresponding risk attached to railway and many other descriptions of speculative investments; to such would Mr. TREDINNICK draw attention at this time as advantageous mediums for capital. Some few months ago he pointed out the following mines, which have since advanced materially in value, and others equally desirable at present quotations are upon the tapis, and it is incumbent upon those having a limited income from Consols or other securities, yielding only 3 to 5 per cent., to avail themselves of the favourable opportunity thus afforded. Mining is not at all times successful, but the risk is comparatively small when experience and practical discrimination is exercised in a judicious selection of progressive mines, situated in districts having analogy and profitable surrounding mines in their favour.

West Seton	£200 in January, has risen to	600 625
South Frances	300 "	720 740
Alfred Consols	17 "	19 20
United Mines	120 "	280 300
Copper Hill	100 "	200
Basset	500 "	760 780
Buller and Basset United	1½ "	5 5½
Stray Park	3 "	10 12
East Basset	25 "	50
Carvannall	3 "	10 12
West Frances	15 "	35 37½
Kitty (Lelant)	6 "	35 37½
Providence Mines	20 "	50 55
Carnyorth	1 "	4 4½
Conduvor	100 "	140
North Basset	18 "	36 37
West Basset	30 "	34 35
Clifford	220 "	600 625

MINING INVESTMENT, &c.—The large amount of capital invested, and the great want of facility for conducting the sale and purchase of stock, has induced us to OFFER OUR SERVICES to capitalists and others, being in daily communication with practical men in all parts of the country, who have the means of obtaining the most correct information upon the principal mines in Devon, Cornwall, and Wales. There can be no doubt that mining securities afford to the capitalist a safe and profitable source of investment, many of which, by a careful selection, will ensure a return of from 15 to 20 per cent. for many years to come; others of a progressive character hold a promise of increased value, and of becoming a lasting and dividend property.

Messrs. FULLER and CO., 51, THREADNEEDLE STREET, LONDON, respectfully TENDER THEIR SERVICES in TRANSACTING ANY BUSINESS, or obtaining any information, connected with MINING, BANKING, or RAILWAY SECURITIES; and any orders confided to their care will receive the best attention. Office Hours from Ten till Five.

830

PRELIMINARY PROSPECTUS. SHREWSBURY AND WELSHPOOL RAILWAY, WITH A BRANCH TO MINSTERLEY.

Capital £150,000, in shares of £10 each.—Deposit £1 per share.

CHAIRMAN—The EARL OF POWIS.

SECRETARY (pro tem.)—A. Howell, solicitor, Welshpool.

SECRETARY TO THE SHREWSBURY COMMITTEE—R. S. France, Sibberton, near Shrewsbury.

SOLICITORS—S. F. Noyes, 5, Lincoln's Inn-fields, London; A. Howell, Welshpool. ENGINEER-IN-CHIEF—P. W. Barlow, Esq., F.R.S.

ACTING-ENGINEER—B. Piercy, Esq.

BANKERS.

Messrs. Beek, Downard, Scarth, and Bowen, Shrewsbury and Welshpool. Messrs. Croxson and Co., Oswestry. The North and South Wales Branch Bank, at Newtown, Aberystwyth, Welshpool, and The National Provincial Bank, Manchester.

It is proposed to apply to Parliament for power to make a railway, commencing by a junction with the authorised line of the Oswestry and Newtown Railway, in the parish of Buttington, near Welshpool, and thence passing by Woolleston, Westbury, Yockleton, Cruck Meole, Hanwood, Hook-a-Gate, and Braze Meole, and terminating by a junction with the Shrewsbury and Hereford Railway, at Coleham, near Shrewsbury; together with a branch commencing by a junction with the main line at Cruck Meole, and passing by Lea Cross, Pontesford, and Pontesbury, to Minsterley.

The object of the undertaking is to connect the county of Montgomery, the mineral district of the Rea Valley, and the Llanymynech line rocks, with Shrewsbury, the Midland Counties, and London, and to supply also an important link in the chain of communication annually approximating towards completion between Manchester and the other manufacturing districts of Lancashire and Yorkshire, on the one hand, and Milford Haven, Aberystwyth, South and Central Wales generally, on the other. The necessity for this addition to the railway system of England and the Principality has been so strongly felt, during the last eleven years, many schemes for supplying it have been before the public. The important results to be obtained by its accomplishment have been so fully discussed, that it is deemed unnecessary to recapitulate them.

The delay in supplying this communication has been chiefly occasioned by the difference of opinion which has existed in respect of the precise route it should take. In laying out the present scheme advantage has been taken of the discussions to which its predecessors gave rise; all that has been urged for or against the several routes before proposed or suggested has been fully considered; and the present line has been selected so as to embrace the several conflicting interests, while the efficiency of the main line as a through route has been carefully preserved.

The requirements of the standing orders have been complied with, by the deposit of the plans, sections, and books of reference, and the notices have been served on the owners and occupiers of the land necessary for the line.

A careful estimate of the cost of the works and purchase of the land, &c., has been made, and it appears that the undertaking can be satisfactorily completed for the sum of £150,000, being less than £7000 per mile, while the average cost of the railways in the kingdom has been no less than £23,000 per mile, or nearly five times the amount to be expended on this line, and some of those best known in this neighbourhood have cost £50,000 or £60,000 per mile.

In *Chattaway's Railway Statistics*, the author makes the following remarks:—"It may be considered as certain that any line, the cost of which is limited to £10,000 or £12,000 a mile, will undoubtedly afford a good return to its shareholders, however thinly populated and unpromising may be the district through which it runs. It is important that these facts should be borne in mind in judging of the expediency of any prospective railway extensions. It is essential to our commercial prosperity and our pre-eminence as a nation, that none of the sources of wealth with which a beneficent Providence has so freely gifted this favoured country should remain undeveloped; not a mine nor quarry of importance, not a single agricultural district, should be allowed to remain without the advantages of railway communication. It is quite possible to effect this, and in such a manner as to ensure an adequate return upon the capital employed, but it is to be effected only by the hearty co-operation of all parties interested in the matter, whether as landowners, occupiers, or shareholders, and by the exercise of a rigid and sound economy in the formation of the works. Some few lines have lately been constructed under these conditions with the most singular success."

In order to secure an early return, and a certain dividend of not less than 4½ per cent., the London and North-Western Company are prepared (with the sanction of Parliament) to enter into traffic arrangements, under which, without giving that company any exclusive privileges, or taking anything from the proceeds of the present undertaking, it will be stipulated, that should those proceeds at any time be insufficient to pay 4½ per cent., there shall be an apportionment in favour of this Company of the proceeds of the conveyance of our through traffic over any part of their railways, to such an extent (not exceeding 70 per cent. for this Company, or less than 30 per cent. for the London and North-Western Company) as will make up the deficiency.

The well-known contractors, Messrs. Thornton and McCormick, who have undertaken the construction of the Oswestry and Newtown Railway, have expressed themselves willing to subscribe one-third of the cost, or £50,000; and it remains to be seen, whether the landowners, agriculturists, and other inhabitants of the district will, under such favourable circumstances, come forward, and by subscribing the remainder of the capital, secure for themselves the great advantages which the scheme is calculated to supply.

Application for shares in the annexed form to be forwarded to either of the secretaries.

To the Managing Committee of the Shrewsbury and Welshpool Railway Company.

GENTLEMEN,—I request you to allot me shares of £10 each in the capital of this undertaking; and I agree to accept the same, or any smaller number that may be allotted to me, and to pay the deposit thereon, and sign and execute the Subscribers' Contract when required.

Dated this day of _____, 1855.

Signature

Christian and surname in full

Address

GEELONG AND MELBOURNE RAILWAY COMPANY.

Incorporated by an Act of the Victoria Legislature, 8th February, 1853.

Capital £350,000, in 17,500 shares of £20 each.

Bearing a minimum interest of 5 per cent. per annum, Guaranteed by the Colonial Government for 21 years, and payable half-yearly, viz., on the 20th April and 20th October, in the Colony and in London.

DIRECTORS.—ELECTED BY THE SHAREHOLDERS.

CHARLES NUTTALL THORNE, Esq., J.P.—PRESIDENT.

WILLIAM G. McKELLAR, Esq., J.P.

CHARLES IBBOTSON, Esq., J.P.

JAMES B. HUTTON, Esq.

APPOINTED BY THE COLONIAL GOVERNMENT.

CHARLES EDWARD STURTEY, Esq., J.P., Immigration Agent.

GEORGE F. BEICHER, Esq., Sub-Treasurer.

ENGINEER—Edward Snell, Esq.

SECRETARY—Martin Sholl, Esq.

LONDON OFFICE.

MANAGER—S. J. Cooke, Esq., 36, Cannon-street, late Treasurer to the Colonial Government, and a Director of the Company.

AGENTS—Messrs. Larnach and Walker, 37, Cannon-street. EXAMINING AND CONSULTING ENGINEERS—Daniel Gooch, Esq., C.E., Great Western Railway; Henry Stothert Esq. (Sheffield and Glasgow); Bristol.

SOLICITORS—Messrs. Goodwin and Co., 3, Lancaster-street, Strand.

BANKERS—London Joint-Stock Bank; and Bank of New South Wales.

By advices, dated 12th September last, further intelligence has been received of the progress of the above undertaking, which is now rapidly approaching completion.

It is anticipated that 16 miles will be ready for traffic in January next, and that the communication between Geelong and Melbourne will be formally opened at the date of the sixth half-yearly meeting of shareholders in July of the ensuing year.

Applications continue to be received for the unallotted guaranteed shares of £20 each, at not less than par, which must be paid in full, interest taking effect from the date of payment, and so endorsed on the share certificates.

Lithographed plans of the line, reports, and traffic estimates, may be procured, and all further information obtained, on application at the office of the company.

S. J. COOKE, Manager.

Geelong and Melbourne Railway Office, 36, Cannon-street, City, Dec. 1, 1855.

FORM OF APPLICATION FOR SHARES.

To Messrs. Larnach and Walker, 37, Cannon-street, London.

GENTLEMEN,—I request that you will allot to me _____ guaranteed shares of £20 each in the Geelong and Melbourne Railway Company, at _____; and I hereby undertake to accept the sealed certificates, and to pay for the same on receipt of the allotment letter.

Name

Address

Profession or business

Usual signature

Date

ANTI-EXPLOSIVE BOILERS, BY DUNN, HATTERSLEY, AND CO., WINDSOR BRIDGE IRONWORKS, MANCHESTER.

The more important of the numerous advantages possessed by DUNN'S PATENT DUPLICATE RETORT STEAM BOILERS, are, their EXCEEDING STRENGTH and SIMPLICITY OF CONSTRUCTION, enabling the manufacturers to make them at a LOW PRICE. Being made in parts, all of which are duplicates, any portion can be readily replaced at any time, or the whole may be enlarged with the utmost facility, by placing more cylinders side by side, joining the whole into a continuous corrugated flat-bottomed boiler.

This important point in the construction entirely OBVIATES the DANGER of EXPLOSION (from being tended by unskilful men), as damage done to one portion cannot affect the others, or disarrange the whole.

Every part is SEVERELY TESTED before leaving the manufactory, and warranted. These boilers are ECONOMICAL in use, their large heating surface giving the greatest effect with the smallest amount of fuel. Their roomy furnaces admit of the consumption of the cheaper and more bulky kinds of fuel, such as brushwood, sawdust, small coals, peat, refuse of resin, pitch, grass, cane refuse, &c. They are adapted to any kind of smoke burners, and their clear circulation of water prevents scaling or clogging with dirt.

By a slight difference in the arrangement of the parts, they can be made SUITABLE for LAND, MARINE, or LOCOMOTIVE ENGINES; for use in sugar refining, tallow rendering, extracting palm, fish, and other oils, or the saccharine matter from beet-root, cane, &c., and every other use to which boilers are applied.

Being, as before stated, manufactured in parts, each of which will not exceed in weight 2 cwt. to 3 cwt. (as the case may require), they possess great facilities for transport by water or land, particularly in the interior of mountainous districts, where roads have not been established.

These boilers have been well tested in the manufacturing and mining districts of England, and have been most highly approved for both home and foreign use by the most eminent engineers. LICENSES are GRANTED to manufacture these boilers.

For prices, further particulars, or any information, apply to the patentees, Messrs. DUNN and CO., Windsor Bridge Ironworks, near Manchester.

HORIZONTAL ENGINES, from 8 to 70-horse power; and TURN-TABLES, from 10 ft. to 40 ft. diameter; always in a forward state of manufacture, to ensure quick deliveries. Every description of RAILWAY PLANT supplied at the shortest notice.

NOTICE TO INVENTORS AND PATENTEES.—The OFFICES for PROCURING PATENTS are REMOVED to No. 32, ESSEX STREET, STRAND, LONDON, where all information (British and foreign) may be obtained gratis.—AVERY, BELLFORD, GARDINER, and CO., patent agents and negotiators.

THE MINING JOURNAL.

Statistics of Cornwall—In the Vice-Warden's Court.

In the CONSOLIDATED CAUSES of—
BATTEN V. ANGWIN.
MICHELL V. SAME.

NOTICE IS HEREBY GIVEN, that, pursuant to TWO several ORDERS, or DECREES, made in these Causes, and bearing date respectively the 10th and 14th days of November last, a PUBLIC AUCTION will be HELD at BALEWIDEN UNITED MINES, in the parishes of Madron and Sanerred, within the said Stannaries, on Tuesday, the 8th day of January next, at Eleven o'clock in the forenoon, for SELLING, either together or in lots, the undermentioned MINING MACHINERY, MATERIALS, and OTHER EFFECTS, viz.:

1 36 in. cylinder engine, complete.
1 boiler, 9 tons.
1 water-wheel, 36 ft. high, and 4 ft. wide, with iron axle for 12 shafts and 8 stamp heads, and lifters attached.
15-armed capstan and shears.
7 9 ft. 6 in. pumps.
2 4 ft. 6 in. pumps.
2 9 ft. 4 in. working-barrels.
2 4 in. doerpieces.
2 6 in. windroves.
1 6 in. turn-piece.
21 fms. of 14 in. plunger-lift, including H-piece, stuffing-box, glands, pole, &c.
20 fms. of 6 and 7 in. drawing-lift, including two doerpieces, two windroves, two working-barrels, &c.
10 fms. of 4 in. drawing-lift, including doerpiece and working-barrel.
34 fms. of 16 in. plunger-lift, including H-piece, stuffing-box, glands, pole, &c.
60 fms. 7 in. capstan-rope.
3 balance-bobs; 1 V-bob; 1 horse-whim; 3 horse-whims, with shaft tackle, complete; 50 fms. whim-chain; 40 fms. whim-rope; 50 fms. whim-rope, nearly new; 20 fms. 4 ft. launders; 50 fms. small launders; 4 4 ft. sheaves; 2 3 ft. ditto; 2 2 ft. ditto; 50 fms. 3 and 6 in. wood rods, with pulleys and stands; pump rods; buckets and prongs; grinding-stone; smith's bellows, anvils, vice; screw stock; screw wreats; taps and plates; smiths and miners' tools; a quantity of new and old iron; cast-steel; bolts and nuts; old timber; boulders; wood sheds; kibbles; miners' chests; sampling scales and weights; tables, desk, and forms; 40 fms. 5 and 6 in. wood rods; 10 fms. ½ the iron rods; 60 fms. wood staked ladders; and 60 fms. casing and dividing.
For viewing the same, application may be made to Mr. MORRIS, on the mine; and for further particulars, to Mr. H. S. STOKES, solicitor, Truro; or to Mr. JOSEPH ROBERTS, solicitor, Truro.

Dated Registrar's Office, Truro, the 19th day of December, 1855.

SKIDDAW AND BLENCATHERA MINES, NEAR KESWICK, CUMBERLAND.—MACHINERY FOR SALE, BY PRIVATE CONTRACT. Consisting of 20 ft. WATER-WHEEL, 3 ft. broad, nearly new, and very substantially built, crank, connecting rods and bob, sole trees, &c.; 12 fms. of 7½ in. pump; 12 fms. of 1½ in. rods; 12 fms. of ladders, dividing boards, &c.; 1 crushing mill, with 1 pair of plain rollers and fittings; tubs, boulders, and washing machine; smiths' tools; a quantity of mining tools; horse-whim, kibbles, rope, &c.; crab winch; bucket doerpiece; spare timber; iron, &c.
The directors are empowered to treat with any respectable party for the transfer of the mill, containing many promising lead and copper lodes, from which about £5000 worth of ore has been sold by the present company.
The mines and machinery may be seen on application to Capt. JOSEPH SPARKS, Keswick; and further particulars may be had on applying to Mr. JOSEPH HENSON, secretary, Cockermouth, Cumberland.

WHEEL SUSAN, SITHNEY, CORNWALL.—TO BE SOLD, BY PRIVATE CONTRACT. An excellent 30-in. cylinder STEAM-ENGINE, 9 ft. stroke, equal beam, with one boiler about 8 tons, 24 head stamps, two fly-wheels, &c., complete, and in first-rate condition, together with all the woodwork of engine-house and boiler-house, &c.—Application to be made to Mr. FRAS. DANIELL, Camborne; Mr. J. J. JONES, auctioneer, Bournemouth, Redruth; or Mr. H. V. NEWTON, auctioneer, printer, &c., Camborne.

TO BE DISPOSED OF, PART OR ALL of a large MINING SETT. In a good locality, and in the neighbourhood of rich mines. Dues very easy, and water-power in abundance, if required.—For further particulars and information, address "A. Z." Mining Journal office, 26, Fleet-street, London, where plans and specimens of the ore can be seen.

TO BE SOLD, ONE superior SLIDE LATHE, 18 ft. bed, 11½ in. centres, self-acting slide, and surfacing motions, with change wheels, and screw for screw-cutting; also, ONE GANTTRY, 16 ft. long, with two pair of 9 in. centre lathe heads and saddles, to suit self-acting in slide motion only.—For price and further particulars, apply to WILLIAM PEARSON and Co., Neville Ironworks, Little Neville-street, Leeds.

TO MANUFACTURERS.—SKINNERBURN IRONWORKS, NEWCASTLE-UPON-TYNE, FOR SALE, BY PRIVATE CONTRACT. These works are situated on the west side of the River Tyne, and consist of a commodious FOUNDRY, an excellent and powerful FORGE HAMMER, with arrangement for making almost every description of forged work for steam-engines, iron shipbuilding purposes, and machinery generally, with STEAM-ENGINES, CUPOLAS, FURNACES, STOVES, CRANES, PATTERN and SMITHS' SHOPS, &c., requisite for carrying on an extensive business, both in the foundry and forge department.

In addition to the above, there are some spacious OPEN YARDS, and other BUILDINGS, consisting of a fisher information, with coal house and harness room, adjoining, and two dwelling rooms above; four tenement cottages; and a square of cottages, containing six rooms; counting-house, &c.; the whole of which, together with the works, is freehold property.

The works are in full operation, but the term for which they have been leased is about expired. The property may be purchased with or without machinery.

For particulars, apply to Messrs. INGLEDEW and DAGGERT, solicitors, Newcastle-upon-Tyne.

MANGANESE.—ON SALE, A CONSIDERABLE QUANTITY of MANGANESE, of very good quality, ready for delivery, a portion of which is now lying at the warehouse in Sheffield. It has been assayed by Dr. Bingley, and produced as follows:

Carbonic acid, moisture, &c., capable of being driven off	13-904
at a low red heat	33-516
Silica, alumina, &c., forming gangue	6-960
Peroxide of iron	45-620=100-000

For further particulars, apply to Mr. GEORGE WILSON, share and mining broker, No. 6, George-street, Sheffield.

ENGINES.—FOR SALE, THREE 12-HORSE HIGH-PRESSURE HORIZONTAL ENGINES, admirably suited for winding, 12 in. cylinders, metallic pistons, either with or without boilers. Also, TWO powerful DOUBLE PURCHASE CRABS, capable of lifting 30 tons each. Also, a WROUGHT-IRON TANK, 20 ft. x 4 ft. x 4 ft. plates.—Apply, by letter, to "A. S. H." Mining Journal office, 26, Fleet-street, London.

FOR SALE, BY PRIVATE CONTRACT, A 30 in. DOUBLE ACTION STEAM-ENGINE, with 11 tons fly-wheel, and two wrought-iron shafts, complete; 11 tons boiler; stamps' axle for 12 heads; horse-whim, &c. The engine was built by Mare and Co., and is in excellent condition.—For particulars and price, apply to Messrs. CONN and WILLS, auctioneers and mining agents, 61, George-street, Plymouth.

STATIONARY STEAM-ENGINES OF THE BEST QUALITY, from 1 to 50-horse power, fitted with VARIABLE EXPANSION GEAR. These engines, which have been designed to combine great simplicity of parts with the utmost economy of fuel, are supplied with or without boilers, at the lowest possible rates; and erected, if required, in any part of the kingdom. General boiler and tank work carefully executed upon advantageous terms.—Apply to Messrs. WILLIAM YOUNG and Co., engineers, Barnstaple.

STEAM-ENGINES AND PITWORK.—FOR SALE, BY PRIVATE CONTRACT, the following STEAM-ENGINES and PITWORK:—A 65 in. cylinder PUMPING ENGINE, 10 ft. stroke in the cylinder, and 7 ft. 9 in. in the shaft, with two boilers about 22 tons; a 24 in. cylinder stamping engine, 8 ft. stroke, with one 10 tons boiler; a 30 in. cylinder pumping engine, 9 ft. stroke in the shaft, with one 8 tons boiler; several 20 and 18 in. pumps; 19 in. working pieces, doerpieces, and windroves; 18 in. ditto; 16 in. ditto; and other large pitwork; also, 2 18 in. plunger-poles, with stuffing-boxes and glands; an excellent capstan; and numerous other things. J. J. GUMMOE.

Dated Imperial Fire and Life Insurance, and National Live Stock Insurance Offices, St. Austell, Nov. 15, 1855.

IMPORTANT TO IRONMASTERS.—Several portions of the IRONSTONE and IRON ORES on the MULGRAVE ESTATE, near Whitby, belonging to the Marquis of Normanby, are still unlet, and may NOW BE TAKEN on advantageous terms. This immense seam runs for about five miles along the cliff-facing the German Ocean, is from 8 to 15 ft. in thickness, and is allowed by competent authority to be much the richest ironstone yet discovered in Cleveland. It is within 16 miles (by sea) of Hartlepool, and 20 of Middlesbrough—both the above places now becoming celebrated for the manufacture of iron. The seam will be divided so as to suit companies; and further information may be obtained on application to Mr. KENN, at Lytle Hall Office, near Whitby; or of Messrs. LEMAN and CO., 51, Lincoln's Inn-fields, London.—Lytle Hall, Dec. 11, 1855.

MINERALS, &c., TO LET.—TO LET, upon long leases, the MINERALS under the Steppay Estate, in the counties of Carmarthen and Glamorgan, South Wales, comprising upwards of 12,000 acres, and containing IRONSTONE, BLACKBAND, ANTHRACITE, BITUMINOUS, and STEAM COAL, and CULM; LIMESTONE, MARBLE, and FLAG QUARRIES, FIRE-CLAY, and BRICK EARTH; also, desirable SITES for the erection of COPPER and other SMELTING WORKS, TIN-PLATE and other MANUFACTORIES, where cheap fuel, and easy communication by rail and vessel are of importance.

Apply to Messrs. FRANKLIN and CLARKE, 21, Great George-street, Westminster; or to Mr. WILLIAM ROSSER, mineral surveyor, Llanelli, South Wales.

COLLIERIES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, two valuable COLLIERIES, in full working order, and yielding a handsome revenue, situated in the West Riding of the county of York, and accessible by the Great Northern and South Yorkshire Railways, and the Dearne and Dove Canal. The bed of coal which is being worked is of excellent quality, and about 4 ft. thick. An extensive area is opened, and the ground proved to be free from faults. For further particulars, and for the same, apply to Mr. W. H. PEACOCK, solicitor, Barnsley.—Dec. 5, 1855.

ANTHRACITE COAL.—TO BE LET, for a term of years, all the valuable SEAMS of ANTHRACITE COAL lying under the Farm of Cresswell, in the parish of Llanwrenny, county of Pembroke, containing upwards of 300 acres. The above coal is of superior quality, and conveniently placed for shipment, being situated on a branch of the Milford Haven, within a short distance of the terminus of the South Wales Railway.—For further particulars, apply to T. M. MARRIOTT, Esq., 1, Lancaster-place, London; JAMES SCOTT, Esq., Haverfordwest; Mr. JAMES WILSON, mineral surveyor, &c., Underwood, near Haverfordwest. 95 Underwood, Oct. 26, 1855.

MR JOHN H. CLEMENT begs to OFFER HIS SERVICES as CONSULTING MINING ENGINEER to gentlemen and capitalists holding, or wishing to hold, interests in mines or mineral properties in any part of the globe. Mr. CLEMENT having had a life-long experience in these matters in various parts of the world, enables him to give the most careful advice as to how and when, and with whom, to invest in mining property.

Address, 10, Gloucester-terrace, Church-lane, Kensington.
To parties inclined to invest in gold mines, Mr. CLEMENT recommends the perusal of his pamphlet on the Marble Springs Mine, to be had on application to him, at his residence, as above.

MARBLE SPRINGS MINE, CALIFORNIA.

Sir,—In answer to several enquiries concerning the state of the law as regards limited liability in joint-stock associations in the State of California, I beg to state that the Constitution and Statutes of that State limit the liability of stockholders in incorporated companies as follows:—

"CONSTITUTION, Art. IV., Section 36.—Each stockholder of a corporation, or joint association, shall be individually and personally liable for the portion of all its debts and liabilities."

JOHN H. CLEMENT.

10, Gloucester-terrace, Church-lane, Kensington, Dec. 21, 1855.

MR JOHN H. CLEMENT has much satisfaction in informing those parties concerned in the Marble Springs Mines, in Mariposa County, California, that he has received advices, under date of San Francisco, November 4, 1855, which state that the MINE of MARBLE SPRINGS had much IMPROVED, and there had been cut in one of the levels a bunch of very rich ore, some portion of which had been sold at very high rates; a few pounds of the ore had sold at \$40 per lb. of ore. It had been determined by the manager of the Marble Springs Mine to stock the mine with all necessary articles for the winter, and to place as many as 14 hands during the wet season to continue the levels, and crush and amalgamate the ore already at bank, as well as that portion that will be in future extracted by the above parties. The results of these operations will be made known as soon as received.

10, Gloucester-terrace, Church-lane, Kensington, Dec. 21, 1855.

MR JOHN H. CLEMENT (late Superintendent of the Nouveau Monde Gold Mining Company in California) begs to state that he has received the pleasing intelligence, from a reliable source, that some GOLD ORES had been lately EXTRACTED from the PINE TREE MINE (one of those held by him for the said company), and that the said ores had produced \$35 per ton of 2000 lbs., equal to 1½ cents per lb.; in English money (per 2000 lbs.), £7 4s. 7½d. The notice is dated San Francisco, 4th November, 1855.

10, Gloucester-terrace, Church-lane, Kensington, Dec. 21, 1855.

REDUCTION OF GOLD ORES.—SAMPLES intended to be OPERATED UPON by MR. CALVERT'S PROCESS may be FORWARDED to his LABORATORIES, Savoy,—care of Mr. Robert Henson, 115A, Strand, London.

THE GOLD QUARTZ VEINS of North Wales are similar to many others in the Brazil, New Granada, and several parts of the world, which have not yet been worked at a profit by any process known. Mr. CALVERT will be happy to TEACH PERSONS intending to travel beyond the protection of his patent the RIGHT METHOD, which has taken him 17 years to mature, and by which thousands of quartz veins will immediately become sources of profitable wealth.—For terms, address, by letter only, J. CALVERT, 189, Strand, London.

FOR SALE, BY PRIVATE CONTRACT, a 22 in. cylinder PUMP-ENGINE, 5 ft. stroke, with heavy beam, and boiler 8½ tons; the whole in good condition.—Application to be made to Messrs. NICHOLLS, WILLIAMS, and Co., engineers, Bedford Foundry, Tavistock.

VALUABLE ALUM WORKS, IRONSTONE, AND CEMENT, AT PEAK, NEAR WHITBY, IN THE NORTH RIDING OF THE COUNTY OF YORK.—TO BE SOLD, BY PRIVATE CONTRACT, all those old established and very valuable ALUM WORKS, with an estate consisting of 244 acres of FREEHOLD LAND, containing a rich and inexhaustible BED of ALUM ROCK or SHALE, abounding in the famous MULGRAVE CEMENT STONE, and containing also valuable SEAMS of JET and IRONSTONE of the best quality. The estate also comprises a good substantial dwelling house, with office and laboratory adjoining, stabling, and farm buildings, and 18 cottages (with gardens attached) for the residence of workmen.

The land consists of arable land in the hands of the proprietors, 80A. 3A. 3½; plantation, 4A. 3A. 20P.; land occupied by the works, shale heaps, &c., 74A. 0A. 20P.; moor, 84A. 3A. 13P. The whole estate is situated in the two adjoining townships of Fylingdales and Stainton Dale, is toll free, and the portion in Stainton Dale is also toll free. The Fylingdales part of the property is also entitled to rights of way and turbary on the adjoining Fylingdales Moor, and, in the event of an enclosure, would take a considerable allotment.

The works, which are in full operation and good working order, comprise the necessary boiling-houses, with lead pans, &c., complete, storehouses, buildings, pits, reservoirs, steam-engine of 10-horse power, steam boilers, mills, railways, and wagons for the conveyance of the raw and calcined shale or rock to and from the calcining heaps and steeping pits, and other appendages necessary for the manufacture of from 1000 to 1200 tons of alum, and from 600 to 800 tons of rough Epsum salts per annum.

From their contiguity to the sea, these works possess peculiar advantages in the ready shipment of alum, salts, ironstone, cement stone, &c., and receiving in return coals and other supplies. They have been in the hands of the present proprietor by whom they have been much improved and enlarged) about 10 years, and are offered for sale in consequence of the ill health of the managing partner.

The cement stone in the property is of the best quality, and eagerly sought after by purchasers, and may easily be worked to the extent of from 500 to 600 tons per annum. A net clear rent of £50 per annum has been offered for the jet. The ironstone is, no doubt, a continuation of the great Cleveland band; and although hitherto worked on a small scale, might, without difficulty, be worked to the extent of 10,000 or 12,000 tons per annum, whilst vessels taking away the stone might bring coals for the purpose of calcining it on the spot, by which a great saving would be effected.

The premises may be seen by applying to Mr. WILLIAM WOOD, of Albert-place, Whitby; and further particulars may be obtained on application to Messrs. LINDLEY and GONDES, 24, Abingdon-street, Westminster; or Messrs. BUCHANAN and GRAY, solicitors, Whitby.

TO ARCHITECTS, SLATE MERCHANTS, BUILDERS, AND OTHERS.—THE DIRECTORS of the MACHINO SLATE AND SLAB COMPANY having completed their arrangements for the REMOVAL of their SHIPPING PORT to CONWAY, for the convenience of vessels unable to lower their masts to pass the tubular bridge, are now PREPARED to RECEIVE ORDERS for their justly celebrated SLABS and SLATES, from the Ffestiniog vein, which for beauty of colour and durability are unequalled.

The slabs have been largely used in the construction of houses for Australia, and from the facility with which they are erected and removed, are well adapted for movable huts for men and horses at the proposed camps in England and Ireland. All applications to be addressed to Mr. T. H. WHEELER, the resident director, at the company's offices, Conway, North Wales.

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CONDUCTED BY

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CORT'S NATIONAL ANNUITY FUND.—The SUBSCRIPTION ACCOUNT is now open at the banking-house of Sir John W. Lubbock and Co., Mansion House-street, London, where contributions in aid of this important cause, and which will be of great national utility, will be duly acknowledged; and where a list may be seen of the Committee promoting the fund.

A COPY of the GENERAL PETITION, in course of signature, to the House of Commons, and full particulars of the extraordinary facts, including a pamphlet kindly furnished by David Muesel, Esq., giving a sketch of the iron trade in this country in the last century; the origin of our export trade in 1785, now reaching more than 1,000,000 tons yearly; the consequent annihilation of the export trade of Russia, which event alone has enabled us to maintain our present proud pre-eminence over that power, on whom we were previously in servile dependence for this necessary to the arts, either of peace or war; the treatment in 1789 of the author of these vast benefits by public defaulter and others; the recompense made to his widow and orphans by the House of Commons in 1812, for saving up to that time to the British Empire more than £30,000,000 sterling; may be had at the Mining Journal office, 26, Fleet-street; the *Mechanics' Magazine* office, 166, Fleet-street; or by post on remittance of three postage stamps.—Dec. 20, 1855.

THE COMBUSTION OF COAL AND THE PREVENTION OF SMOKE CHEMICALLY AND PRACTICALLY CONSIDERED.
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FAIRBAIN'S COAL CALCULATION TABLES;
forming a complete Ready Reckoner for the Coal Trade, showing the product in tons and cwt., of any quantity of coal, from 1 to 200; and, in money, at any price, from 3d. to 15s. per ton. To which is appended, a Table showing the conversion of chaldrons into keels and tons.
Gateshead Observer office; and may be had of Messrs. CAIR and ATKIN, and Mr. M. S. DODDS, Quay Side, Newcastle; Mr. J. JORDISON, Middlesbrough-on-Tees; Messrs. PEARSON and SON, Hartlepool; Messrs. SMITH and SON, Sunderland; and Mr. W. HALL, Monkwearmouth; or of Mr. W. A. FAIRBAIN, 5, Woodbine-place, Gateshead; also, of Messrs. SKIPPER and EAST, St. Dunstan-at-Hill, London.

Now publishing, in 2600 pages, imperial 8vo., price 36s.
THE POST OFFICE LONDON DIRECTORY FOR 1856.
Most gratifying Reviews of the huge volume have appeared in all the leading Metropolitan Journals, of which only very short extracts can be here quoted:—
"In short, this work contains all that can reasonably be required in a Directory; and much more, probably, than was ever found in one before. It may be safely referred to for information upon everything connected with the metropolis, and the elements which constitute its wealth and importance."—*Times*, Dec. 8, 1855.
"It is indeed a triumph of energy, enterprise, and combined talents of many orders, to which, upon reflection, every one will be ready to assign the merit it deserves."—*Morning Advertiser*, Nov. 12, 1855.

There has been competition, but it has passed away; for it has been too carefully and sedulously edited to admit of any such thing. It is a work of great intelligence, and in its classifications, to admit of successful rivalry."—*Morning Herald*, Nov. 12, 1855.

An indispensable necessity, not only in the counting-houses of the mercantile part of the community, but also in the halls of the great and fashionable."—*Morning Chronicle*, Nov. 16, 1855.

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In a metropolitan volume of this kind, it is impossible to be too complete. This book, dealing not only with the commercial classes, but with all the residents in London, supplies a daily need."—*Daily News*, Dec. 17, 1855.

The largest and most accurate of all our popular compilations."—*Sun*, Nov. 10, 1855.

The extent and quality of the information contained in the volume has, as far as we know, never been equalled in a publication of the kind."—*Globe*, Nov. 15, 1855.

This annual wonder has just appeared, and on the present occasion, it has appeared without a rival, having in a year driven every competitor from the field. Even they who, like ourselves, disclaim monopoly, acknowledge the justice of monopoly fairly won by decided excellence."—*Standard*, Nov. 16, 1855.

Its fame is too well established, its pretensions to be what it professes too thoroughly justified, and its comprehensiveness too immense, to admit of any other consequence than disastrous loss to the speculator who would blindly hope to supplant it."—*Shipping Gazette*, Nov. 23, 1855.

Even as there is no city in the world which can compare with the metropolis as the abode of aristocracy and opulence, so it is equally beyond dispute that there is but one Directory."—*Church and State Gazette*, Nov. 16, 1855.

The whole work exhibits a mass of accurate information."—*Atlas*, Nov. 17, 1855.

There is an old joke about the man who sat down patiently to read through a dictionary, and complained of the variety of its subjects. What would he have said to the *Post Office Directory* of 1856, with its pregnant line about everybody?—*Bell's Weekly Messenger*, Nov. 17, 1855.

In any one would read, it is a work of great intelligence, and in its classifications, to admit of successful rivalry."—*British Weekly*, Nov. 17, 1855.

The opponent of the production before us has ceased to exist, it appearing that, even after the collection of the information for next year, and the work being in type, the sale would be insufficient to repay the mere expense of printing. The *Post Office Directory* is now alone in the field, but we are glad to see that the exertions of the proprietors are undiminished."—*Court Journal*, Nov. 17, 1855.

This has become a work of national importance. It has been said we could not afford to lose our work, but our observation applies to our *Post Office Directory*."—*Herald*, Nov. 17, 1855.

The proprietors of this work have now the field to themselves; but that they have not relaxed in their exertions on that account is fully evident from the completeness of the *Directory* for the coming year."—*Illustrated London News*, Nov. 17, 1855.

Still swelling its dimensions as the ever-increasing area of the vast metropolis increases."—*John Bull*, Nov. 17, 1855.

A work of similar character, though by no means equal in correctness of arrangement and detail, has, at length abandoned. It appears to us beyond question that the sale of so exclusive and peculiar a work will never repay the expense of preparing two such publications, which, if accurate, must be counterparts of each other."—*Mining Journal*, Nov. 17, 1855.

Extent, variety, and accuracy of information, so far as we have had occasion to test it, is not the only feature of the book."—*Spectator*, Nov. 17, 1855.

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It is certainly one of the literary phenomena of the age."—*Sunday Times*, Nov. 18, 1855.

It enjoys a deserved reputation never achieved by any work of its class."—*Weekly Times*, Nov. 18, 1855.

It is one of the marvels of the present age."—*Observer*, Nov. 19, 1855.

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The accuracy, fulness, clear and careful printing are beyond all praise."—*Economist*, Dec. 8, 1855.

The attempt to establish a rival *Directory* has failed. The undertaking was a hopeless, almost an impossible one."—*Press*, Dec. 8, 1855.

Kelly and Co., 19, 20, and 21, Old Bowell-court; and all booksellers.

THE ENGINEER AND JOURNAL OF MANUFACTURES AND MACHINERY.—The first number of a weekly publication, bearing the above title, will appear on Saturday, January 5, 1856. The necessity existing for the establishment of an efficient and thoroughly independent organ, in connection with the particular sections of Industrial Manufacture to which this Journal appeals for support, is acknowledged by the public. The *Engineer*, though apparently somewhat restrictive, has been adopted as one more readily indicating the general character of the matter which will be found in the publication, than as an intimation that it is projected solely for Engineers recognised as a class. This Journal will be conducted upon a broad but intelligible basis, and will be found of interest not to the Engineer alone, but to all who are connected directly or indirectly with, or are interested in, the Manufacture or Application of the metals. It is designed, in fact, adequately to represent the industrial activity of the age in which we live. To carry out this intention, most valuable services have already been rendered, and assurance of assistance from many of the most eminent men of the day—scientific and practical—have been received. In the columns of *THE ENGINEER* will be found collected Authoritative Information on subjects connected with the Useful Arts, embracing new facts, results of experiments, and more extended observations, professional papers, and official documents. The numerous "currents of Industrial Progress" will be turned into one stream, and in one periodical will be gathered together the scattered information pertaining to different departments of Industry, thus concentrating intelligence, facilitating enquiry, promoting useful discussion, and forming, in the whole, a reliable and most valuable body of reference. It will be an object of the conductors of *THE ENGINEER* to classify and discuss the materials obtained by and supplied to them, to furnish systematic Expositions of particular Arts and branches of Manufacture, showing their development, relation, and dependence, and suggestions of Improvements and Modifications to which they are still open, the obstacles by which they are obstructed, and the principles upon which their advancement depends. It is not considered advisable to encumber a preliminary announcement with matters of mere detail; suffice it to add, that the following list comprises a portion of the subject matter to which the pages of *THE ENGINEER* will be devoted, especially conversant with the questions discussed. Reports of Industrial Progress, at home as well as abroad, in all cases prepared by competent and reliable contributors. The latest discoveries in Mechanics and Science. Intentions of real merit or importance will be fully described, and when necessary, the fallacy and inutility of others will be exposed. The Iron Manufacture. Iron Shipbuilding and Steam Navigation. Reports upon important works on Railway Engineering, Hydraulics, and of Public and Sanitary Improvements. Reports on the Scientific and other Societies. Weekly Register of Patents, and Notices important to Patentees; also carefully prepared Abstracts of all specifications. Reviews of Scientific and Mechanical Works, which will be written impartially to all for the record of useful additions, and the insertion of correspondence upon interesting or practical subjects, and for unfettered but friendly discussion. *THE ENGINEER* will be illustrated. As an advertising medium it will be unique. Price Fivepence. Stamped Sixpence. Orders will be received by all News Agents and Booksellers in town and country; or, if preferred, it may be had direct from the Office, post-free for 6d. per quarter. Post-office Orders to be made payable to the publisher, Mr. Bernard Laxton, Engineer's Office, 301, Strand, London. Letters to be addressed to the Editor.

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Directors of Railways, Engineers, and Manufacturers, are informed that the OFFICES OF THE COMPANY are REMOVED to No. 103, ST. MARTIN'S LANE, CHANCERY CROSS, where, on application, every information will be afforded respecting their patented improvements in switches and crossings, now so universally adopted.
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26, GREAT GEORGE STREET, WESTMINSTER.
The Second Edition of this company's CIRCULAR, just published, is now being forwarded, post free, to directors, engineers, managers, and others interested in railways. The CIRCULAR contains engravings, detailed estimates of cost of construction, and descriptions of many valuable patents, with the latest results of experience in the working of the various patented systems of Permanent Way, either the property of, or worked by, the Permanent Way Company.

These patented systems are now adopted by companies owning several thousand miles of railway, are approved of by most of the eminent railway engineers, in this country and abroad, and the system of fish-jointing, in particular, has received the unqualified approval of H.M.'s Commissioners of the Board of Trade and their Inspecting Officers.

The Permanent Way Company are prepared to grant licenses on liberal terms, to Railway Companies and Manufacturers, for the use of all or any of the Patented Inventions which have for their object the safety and comfort of the travelling public, and economy in construction of the road and rolling stock.

That the objects are accomplished, the following extracts will confirm:—
"There can be no doubt that the practice of Fishing the Rails, which is becoming very general, is a great element of safety; the principle cannot be too much encouraged."—Extract from Report of Col. Wynne, R.E., Chief Inspector of Railways to H.M.'s Commissioners of the Board of Trade, dated April 27th, 1851.

"My Lords direct me to observe, that they trust that the remarks of the Inspecting Officer, as to the desirability of the fish-joint being adopted to a greater extent upon the Railway, will receive the attentive consideration of the Directors."—Extract from letter of Capt. Galton, R.E., Secretary to the Railway Department of the Board of Trade, in reference to the foregoing Report.

"Dear Sir, In reply to your favour of the 1st inst., I beg to say that I experience no difficulty whatever in keeping the nuts of the bolts tight."—Extract from a letter by Mr. H. Woodhouse, engineer, Superintendent of the Permanent Way of the London and North-Western Railway.

"I would, however, beg to state that, in point of safety, the first and most essential element of railway working, the fish-joint, on your system is, in my opinion, indispensable."—Extract from letter of Mr. J. E. McConnell, Locomotive Engineer of the London and North-Western Railway.

"On a district of about 30 miles, where the greatest length has been fished, the saving in labour of maintenance amounts fully to 30 per cent."—Extract from Mr. R. Jacob Hood, Engineer to the London, Brighton, and South Coast Railway.

Among other things, the company call attention to the following patents recently placed under its management: Mr. William Pole's important improvement in fish-joints, and Mr. Paul Prince's improvements in moulding railway chairs.

Licenses, and every information, may be obtained upon application to CHAS. MAY, F.R.S., Managing Director of the Company, 26, Great George-street, Westminster; or to—
WILLIAM HOWDEN, Sec.

PERMANENT WAY OF RAILWAYS.—INFRINGEMENT OF
MR. P. M. PARSONS' PATENT OF FEBRUARY, 1849.—With reference to the recent advertisement of the Permanent Way Company, Mr. Parsons thinks it right to give notice to Railway Companies, Engineers, and Manufacturers, that he has COMMENCED AN ACTION AGAINST ONE OF THE LICENSEES OF THE PERMANENT WAY COMPANY, who have infringed his patent, in order to determine the validity of the claim made by that company to the use of his invention.
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